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APPENDIX TO THE JOURNALS

OF THE

SENATE AND ASSEMBLY

OF THE

THIRTY-NINTH SESSION

OF THE

LEGISLATURE OF THE STATE OF CALIFORNIA

VOLUME III

SACRAMENTO
FRIEND WM. RICHARDSON - - SUPERINTENDENT OF STATE PRINTING
1912

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CALIFORNIA STATE MINING BUREAU
FERRY BUILDING, SAN FRANCISCO
LEWIS E. AUBURY, - - - State Mineralogist

REPORT

OF THE

BOARD OF TRUSTEES

AND

STATE MINERALOGIST

COVERING THE

Sixtieth Fiscal Year ending June 30, 1909, and Sixty-first Fiscal Year ending June 30, 1910.

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1910

Report of the Board of Trustees of the State Mining Bureau.

San Francisco, November 1, 1910.

To His Excellency James N. Gillett,
Governor of California.

Sir: The trustees of the State Mining Bureau herewith submit their report, in pursuance of the act of the legislature, approved March 23, 1893, entitled "An act to provide for the establishment, maintenance, and support of a Bureau, to be known as the State Mining Bureau, and for the appointment and duties of a board of trustees; to be known as the Board of Trustees of the State Mining Bureau, who shall have the direction, management and control of said State Mining Bureau, and to provide for the appointment, duties, and compensation of a State Mineralogist, who shall perform the duties of his office under the control, direction, and supervision of the Board of Trustees of the State Mining Bureau."

No regular biennial reports containing the results of all of the work of the Bureau have been printed since the thirteenth (or third) biennial, issued September 15, 1896, although numerous bulletins have been issued, as enumerated in the report of the State Mineralogist. The report herewith submitted covers the sixtieth and sixty-first fiscal years. The Board of Trustees and the State Mineralogist have, however, made biennial reports in accordance with the law above quoted.

[Thirty-eighth session of the Legislature of California, Statutes of California, 1909.]

GENERAL APPROPRIATION ACT PROVIDING FOR THE SUPPORT OF THE STATE GOVERNMENT FOR THE SIXTY-FIRST AND SIXTY-SECOND FISCAL YEARS.

[Approved April 26, 1909.]

The clauses relating to the State Mining Bureau are as follows:

"For salary of State Mineralogist, six thousand dollars.

"For support of the State Mining Bureau, including salaries, sixty thousand dollars; *provided*, that not less than thirty thousand dollars shall be expended in making a practical and scientific examination of the mineral districts of California, including the oil districts and the development, production, resources, methods of working and future possibilities of the mining and oil industries of California. Such examination to be made by competent experts experienced in California mining and assistants, all of whom shall be appointed and their compensation fixed by the governor.

"For printing, binding, ruling, and all other work performed and materials furnished by the State Printing Office, seven thousand five hundred dollars."

The Board of Trustees have, in accordance with the mandate of the legislature and at the request of his Excellency, the Governor, audited and approved the pay rolls of Bureau employees and Field Assistants, and also the traveling and general expenses of the Bureau.

Since the last report the personnel of the Board has undergone a change. The terms of President Harold T. Power and Louis Janin having expired, your Excellency appointed as a trustee Colonel W. J. Barrett. By reason of this a reorganization of the board became necessary, and on July 14, 1910, a meeting was held at which Dr. C. T. Deane was elected President, Mr. A. H. Ward, Vice-President, and Mr. Frank W. Griffin, Secretary.

With the sum set aside by the last legislature, the Board has been able to proceed with a complete revision of Bulletin 36, "Gold Dredging in California," the first edition of which was issued in May, 1905. This work, under the direction of the State Mineralogist, has recently been placed in the hands of the public. The general praise and commendation received from those well informed on the subject, merit the statement that it is one of the most comprehensive and valuable bulletins ever issued by this Bureau.

The appropriation for geological work granted by the legislature carried an especial clause requiring that the Bureau should prepare a bulletin on the petroleum industry of the State. This matter has accordingly received our especial attention, and we beg to state that the field work is proceeding as rapidly as possible. One of the greatest difficulties encountered in compiling information for this bulletin is the rapidity with which developments take place in the various fields. We have also been hampered to some extent by the inadequacy of the Bureau's printing fund. The field notes and maps of the various districts are, however, well on toward completion, and as it would be impossible to condense all of this information into a single volume, it is intended to publish the report in two or more separate bulletins, embracing the northern and southern parts of the State. The printing fund, as above stated, has been found totally insufficient to cover the cost of printing the above mentioned and other prospective bulletins, and we would, therefore, respectfully urge that a substantial increase be granted by the coming legislature.

There also remains much new work to be taken up on the many different branches of mining throughout the State, and upon which late information is lacking. This has been neglected on account of the lack of funds. Among these subjects might be cited "Auriferous Channels," "Placer and Hydraulic Mining," "Industrial Products and Their Occurrence," "Late Methods of Ore Reduction and Concentration," "Utilization of Waste Mineral Products," Conservation of Our Mineral Wealth, including Oil, Gas and Coal," "The Mineral Springs of California," "Manufacture of Home Mineral Products," "The Coal and Iron Deposits of California," county mineral maps and registers, etc.

The sum appropriated for geological work for the sixty-first and sixty-second fiscal years has enabled the Bureau to demonstrate its efficiency and practical value to the mining industry and the public in general, and it is earnestly hoped that sufficient funds will be forthcoming to continue this work. The amount allowed for the actual support of the Bureau has been found, however, to be entirely insufficient, and it has been only by the strictest economy that the ordinary routine work has been kept up.

The public mining library, the only one in the State, is in urgent need of funds wherewith to purchase some of the many technical works which are constantly being published on the various branches and methods of mining and metallurgy. The laboratory is from time to time in need of new apparatus, and some new cases will soon be required in the Museum. We wish herein to highly commend State Mineralogist L. E. Aubury for the economy he has practiced and the ability he has displayed in conducting the affairs of the Bureau with the small means at his command.

Every department of the Bureau is well systematized and the work ably conducted. The rooms are clean and well kept. No effort is spared to furnish full and accurate information on every subject that may come within the Bureau's scope. Thousands of visitors yearly visit the various departments and a constant endeavor is made to advertise as widely as possible the objects and work of the same. Over two hundred mineral collections, made up from duplicate material, have been sent free of charge to the public schools in all parts of the State, and classes from those situated near by are frequently seen inspecting the Museum, where especial attention is shown them.

MUSEUM.

It is gratifying to note during the period covered by this report, the steady growth of this magnificent and valuable mineral collection. It is doubtful if there is in existence an exhibit of this size, comprising as it does so many rare and unique specimens, which has been built up solely by the donations of those interested or actually engaged in mining. The value of the collection is well attested by the large number of visitors, many of whom use it for research and comparison. It is the constant aim of the Bureau to make the exhibit of the utmost practical value and re-arrangement of the different parts is constantly taking place. The igneous, metamorphic and sedimentary rocks have recently been reclassified and are now placed where they are more readily available for reference. Vast deposits of magnesite and diatomaceous earth exist in various parts of the State, and samples from these have been placed together in a special case.

The school collection has proven to be a long felt want by those schools in which physical geography is taught and over two hundred of these collections have been sent out. The following is a list of those who have donated specimens during the past two years:

Aluminum Company of America.
Alsdorf, F. C.
American Vanadium Co.
Angelovich, J. R.
Aubury, L. E.
American Gem and Pearl Co.
Agnew, Thos.
Buamkerchner, Max.
Broadwell, W. P.
Beam, Louis.
Broughton, H. A.
Barcroft, Fred.
Bildeos, Chas.
Bryant, C. F.
Canadian Asbestos Co.
Cokerill & Bitter.
Cramer, Jas. A.
De Beers Consolidated Diamond Mining Co.
Day, William.
Dannett, H. E.
Dennis, H.
Dueber, C. A.
Deane, Dr. C. T.
Dillon, Geo. W.
Darling, S. W.
Duval J. B.
Edman, J. A.
Ehrhorn, Edw. M.
Huston, W. N.
Hess, Frank L.
Henderson, John.
Harmon, Wm.
Hawver, A. C.
Haines, O.
Hart, T. G.
Huntley, W. H.
Jones, James.
Kirkpatrick, Thos.
Koethen, Aug.
Keldaws, John.
Kohn, R. E.
La Grange Hydraulic Mining Co.
Lambert, L. A.
Larbeer & Baker.
Luckhardt, F. C.
Lynch, F. F.
Murray, John.
MacFarren, H. W.
McVay, A. B.
Marshall, N. A.
Norman, Sydney.
Ohlman, John.
Penn Chemical Co.
Preciados, F. C.
Siem, Conrad.
Swan, Percy K.
Schooler, O. L.
Stokes, J. J.
Scott & Hickman.
Sehum, A. W.
Schuyler & Harrington.
Smith & Hoag.
Sanford, Albert B.
Stolzenburg, Ferdinand.
Thorpe, W. B.
Volkert, C. B.
Van Ness Bros.
Wilke, R. M.
Wolf, J. H. G.

Among those of particular value were some very fine specimens of rutile and tungsten ores given by Mr. Frank L. Hess of the U. S. Geological Survey. The American Gem and Pearl Co. contributed some fine samples of gem material in the rough. Mr. J. H. G. Wolf, eighteen specimens of Tonopah and Goldfield ores. Mr. Albert B. Sanford, rare telluride specimens from Cripple Creek, Colo. Van Ness Bros. loaned a very valuable gold specimen. Messrs. Schuyler and Harrington, a large tourmaline crystal.

LIBRARY.

The Library contains about 5,000 volumes of literature pertaining to mining and allied subjects, and the books contained therein can be consulted by the general public during Library hours. Since the San Francisco disaster, the Library has greatly enhanced in value as a place for reference. The destruction of numberless library collections, both public and private, has left the Bureau Library practically alone in the task of supplying to those interested the necessary technical literature treating on the varied branches of mining and metallurgy.

The rapid advances which are constantly being made along these lines are well illustrated by the great number of works treating on the same which are published each year. The Library should have such funds as would allow of the purchase from time to time of a number of the most prominent of these.

Since our last report, a card catalog of the books of the Library, arranged in three divisions—namely, Author, Title and Subject—has been installed and assists in finding books quickly.

JOHN HAYS HAMMOND LIBRARY.

There has been installed in the Library of the State Mining Bureau an independent library, known as the John Hays Hammond Mining Library. This library is the gift of Mr. Hammond to the miners of California, and was donated with the understanding that it should remain in San Francisco. This library contains many new and up-to-date works upon mining subjects, and has proved of great value in supplying references which were not contained in the Mining Bureau Library.

A very complete file of magazines and newspapers devoted to mining and mining news is at all times accessible to those interested. The popularity of this feature is best shown by the great number who daily use the same. The Board wishes to extend thanks to the editors and publishers of the following publications (furnished free to this department) and to others for their kindly interest in the Bureau:

Amador Dispatch, Jackson.
Amador Ledger, Jackson.
American Fertilizer, Philadelphia.
American Forestry, Washington, D. C.
American Geographical Society, New York.
American Institute of Mining Engineers, New York.
Angels Camp Record, Angels Camp.
Antelope Valley Gazette, Lancaster.
Architect and Engineer, San Francisco.
Australian Mining Standard, Melbourne.
Bee, Sacramento.
Bodie Miner, Bodie.
Building and Industrial News, San Francisco.
Bureau of the Census, Washington, D. C.
Bureau of Mines, Washington, D. C.
Bureau of Science, Manila, P. I.
Business and Finance, New York.
Calaveras Prospect, San Andreas.
Calaveras Weekly Citizen, San Andreas.
California Derrick, San Francisco.
California Journal of Technology, Berkeley.
California Oil World, Bakersfield.
Canadian Mining Journal, Toronto.
Cement Era, Chicago.

Chemical Engineer, Chicago.
Clear Lake Press, Lakeport.
Contra Costa Gazette, Martinez.
Courier-Free Press, Redding.
Daily Enterprise, Chico.
Del Norte Record, Crescent City.
Democrat, Woodland.
Dispatch-Democrat, Ukiah.
Eldoradoan, Georgetown.
Engineering and Mining Journal, New York.
Enterprise, Healdsburg.
Enterprise, Porterville.
Far Eastern Review, Manila, P. I.
Free Lance, Hollister.
Free Press, Ventura.
Fresno County Republican, Fresno.
Gateway Gazette, Beaumont.
Gazette, Georgetown.
Gazette, Mariposa.
General Electric Review, Schenectady.
Grizzly Bear, Los Angeles.
Herald, Los Angeles.
Humboldt Standard, Eureka.
Imperial Valley Press, El Centro.
Instituto Geologico de Mexico, Mexico.
Inyo Independent, Independence.
Inyo Register, Bishop.
Institution of Civil Engineers, Westmoreland, S. W. England.
Journal, Salinas.
Journal of Electricity, San Francisco.
Leslie's Weekly, New York.
Lompoc Journal, Lompoc.
Mercury, Madera.
Mercury, Oroville.
Metallurgical and Chemical Engineer, New York.
Mexican Mining Journal, Mexico.
Middletown Independent, Middletown.
Miner-Transcript, Nevada City.
Mines and Minerals, Scranton.
Mining Record, Denver.
Mining Review, Los Angeles.
Mining Science, Denver.
Mining World, Chicago.
Mining and Scientific Press, San Francisco.
Modesto News, Modesto.
Mother Lode Banner, Sonora.
Mountain Democrat, Placerville.
Mountain Messenger, Downieville.
National Petroleum News, Cleveland.
New Zealand Mines Record, Wellington
News, Goldfield.
News, Red Bluff.
News, San Diego.
News Letter, San Francisco.
New York Mining Age, New York.
Nugget, Placerville.
Oceanside Blade, Oceanside.
Oil Age, Los Angeles.
Pacific Miner, San Francisco.
Petroleum Review, London.
Placer County Republican, Auburn.
Placer Herald, Auburn.
Plumas National Bulletin, Quincy.
Queensland Government Mining Journal, Queensland.
Reveille, Cloverdale.
River News, Rio Vista.
Rustler, King City.
Salt Lake Mining Review, Salt Lake.
Scott Valley Advance, Etna.
Searchlight, Redding.
Sierra Daily Times, Sonora.
Siskiyou News, Yreka.
Southwest Contractor and Manufacturer, Los Angeles.
Stanislaus Weekly News, Modesto.
Stone, New York.
Sunset Magazine, San Francisco.
Sun, Colusa.
Telegraph, Folsom.
Times, Los Angeles.
Times, Yerington.
Tribune, Oakland.
Tribune, San Luis Obispo.
Transvaal Chamber of Mines, Johannesburg, South Africa.
Union, Sacramento.
Union, San Diego.
Union-Democrat, Sonora.
U. S. Geological Survey, Washington, D. C.
U. S. Investor, Boston.
Weekly Courier, Petaluma.
Weekly Herald, Arroyo Grande.
Weekly Trinity Journal, Weaverville.
Willows Journal, Willows.
Wood River Times, Hailey.
Yolo Semi-Weekly Mail, Woodland.

LABORATORY.

During the past two years, from July 1, 1908 to July 1, 1910, the laboratory has received samples by mail from 1,555 different parties for determination, aside from those brought in personally and passed upon, which would average about three a day. Apart from the determination of these samples this department has been applied to and has given in person and by mail, advice as to suitable parts of the State to prospect for the less common minerals, as also their market values, etc. Information has likewise been given to enquirers, as to the past history and locations of mines that have been lying idle after previous years of activity, as far as our records went or personal knowledge extended.

FINANCIAL STATEMENT.

Sixtieth Fiscal Year, July 1, 1908, to July 1, 1909.

RECEIPTS.

Balance from fifty-ninth fiscal year	$551 40	
Appropriation sixtieth fiscal year	20,000 00	
		$20,551 40

DISBURSEMENTS.

Geological salaries	$1,186 60	
Bureau salaries	12,200 50	
Traveling expenses	1,309 96	
Rent	1,620 00	
Laboratory	595 72	
Library	2,424 48	
Museum	83 31	
Postage	493 57	
Sundries	637 26	
		$20,551 40

Sixty-first Fiscal Year, July 1, 1909, to July 1, 1910.

RECEIPTS.

Appropriation, sixtieth fiscal year, geological fund		$15,000 00

DISBURSEMENTS.

Salaries	$10,410 00	
Traveling expenses	4,039 50	
		$14,449 50
Balance		550 50
		$15,000 00

RECEIPTS.

Appropriation, sixtieth fiscal year, bureau support		$15,000 00

DISBURSEMENTS.

Salaries	$8,846 60	
Rent	1,620 00	
Laboratory	336 37	
Library	1,586 25	
Museum	116 16	
Postage	401 76	
Sundries	748 03	
		$13,655 17
Balance		1,344 83
		$15,000 00

According to the custom of the Board of Trustees, the accounts of the Bureau have been audited by Messrs. McLaren and Goode and Co., expert accountants. Their report shows that the books and accounts are neatly and correctly kept, and that all funds are properly accounted for. This examination is made quarterly.

Respectfully submitted.

C. T. DEANE, President,
A. H. WARD,
FRANK W. GRIFFIN,
W. J. BARRETT,
Board of Trustees of the State Mining Bureau.

BIENNIAL REPORT

OF THE

STATE MINERALOGIST

COVERING THE

Sixtieth Fiscal Year ending June 30, 1909, and the Sixty-first
Fiscal Year ending June 30, 1910

LEWIS E. AUBURY,
State Mineralogist

Report of State Mineralogist.

To His Excellency, JAMES N. GILLETT, *Governor of the State of California, and to the Honorable the Board of Trustees of the State Mining Bureau.*

GENTLEMEN: In pursuance of "An act to provide for the establishment, maintenance, and suport of a Bureau, to be known as the State Mining Bureau," etc., approved March 23, 1893, I herewith present my report of the work performed by the State Mining Bureau from June 30, 1908, to June 30, 1910.

LEWIS E. AUBURY,
State Mineralogist.

SAN FRANCISCO, November 1, 1910.

From the fifty-second fiscal year up to the present time no regular biennial reports, containing results of all the work of the State Mining Bureau, have been issued. It has been found that the practice of issuing bulletins or reports on special subjects has proven to be not only the best method of supplying the public with required information, but the data contained in the bulletins can be furnished earlier than was the case with the biennial reports.

Since my last report (1908), the following publications have been issued under my direction:

Bulletin No. 54.—Annual statistical sheet, showing by counties the total amount and value of all mineral substances produced during the year 1908.

Bulletin No. 55.—Annual statistical sheet, showing the total amount and value of all mineral substances produced for the past twenty-two years.

Bulletin No. 56.—Mineral production, county maps, and mining laws of California, 100 pages. In addition to a general description of the work of the State Mining Bureau, statistical tables are given, showing the amount and value of all mineral substances produced in 1908, and also comparative tables, illustrating the increase or decrease in value over the previous year.

The different minerals produced in this State are also classified under separate headings in this Bulletin, and the names of the different counties producing same are also given; also the amounts and values of the mineral.

A cross-index is arranged, with a list of the counties of the State, and each county is credited with the amount and value of the different minerals it produces.

Several tables are also shown, by county, giving the total value by years from 1900 to 1908, inclusive, of each different mineral produced. A table is also presented, showing the total gold output of the State by years from 1848 to 1909.

Included in this Bulletin are corporation laws, affecting mining companies, and mining laws of California.

Several pages are devoted to maps of the different counties, showing all railroad lines and post roads, with the distances between points. The maps are brought up to January 1, 1909.

In arranging this Bulletin, it was my endeavor to supply data of a general nature, concerning the mineral possibilities of the State, and also to furnish to the public a publication which would embrace in as compact a form as possible, information generally desired. Ten thousand copies of this Bulletin have been distributed.

Bulletin No. 57.—"Gold Dredging in California," 312 pages, 239 illustrations and 10 maps.

In order to meet the demand for information concerning this branch of the mining industry, which is contributing largely to California's gold supply, it was considered advisable to issue another Bulletin on this subject. The advance which has been made in dredge construction and methods of operation, since the publication of the Bulletin previously issued (No. 36) on this subject, made this course necessary. In this Bulletin data is furnished concerning the different districts where dredging operations are being conducted; nature of the gravel; values recovered; costs and methods of operation. The matter of dredge construction is covered in detail, and methods of prospecting dredging lands are also given. Also maps of productive areas before dredging was commenced are included, and the subject of the reclamation of dredged lands for horticulture and viticulture has been considered. A description is also given of rock-crushing plants, where the gravel, after dredging, is broken for macadam for roads, rubble for concrete, etc.

As there has been some discussion concerning the débris from dredging operations, this phase of the subject was investigated, and the results are incorporated in the Bulletin.

A brief description is also furnished of gold dredging practices in other portions of the United States and in foreign countries.

Bulletin No. 58.—Annual statistical sheet, showing mineral production by counties for the year 1909.

Bulletin No. 59.—Annual statistical sheet, showing amount and value of mineral substances produced for the past twenty-three years, to January 1, 1910.

Bulletin No. 60.—Mineral Production to January 1, 1910, County Maps, Mining and Corporation Laws of California, etc. (In press.)

IN PREPARATION.

In addition to the foregoing, two bulletins are now in preparation, dealing with the subject of "Petroleum in California." One of these reports will deal with the oil fields of southern California and the other with those of northern California. Maps are being prepared of each field, on which will be indicated the location of all wells which have been drilled, together with those which have been abandoned, those producing, and those now drilling. A full description of the different fields will be furnished in the reports, together with names of the different companies operating.

In order that the data collected for the maps may be made available to the public at the earliest date possible, as soon as the field work is completed in each of the different districts, blue line prints will be issued to those desiring them. Later on, these maps will be incorporated in the bulletins.

MAPS.

Relief and Mineral Map of California; size, 25 by 38 inches.

Owing to the large demand for this map, several editions have been printed and issued to the public. It is the intention to revise this map before printing other editions.

Map of El Dorado County, showing boundaries of the National Forests; size, 38 by 24 inches.

Map of Madera County, showing boundaries of the National Forests; size, 42 by 28 inches.

Map of Placer County, showing boundaries of the National Forests; size, 34 by 22 inches.

Map of Shasta County, showing boundaries of the National Forests; size, 42 by 28 inches.

Map of Sierra County, showing the boundaries of the National Forests; size, 44 by 28 inches.

Map of Siskiyou County, showing boundaries of the National Forests; size, 38 by 24 inches.

Map of Trinity County, showing boundaries of the National Forests; size, 36 by 52½ inches.

Map of Tuolumne County, showing boundaries of the National Forests; size, 44 by 28 inches.

Wall map of California; size, 52 by 62 inches; showing the approximate location of the different mineral deposits in the State; also location of all railroad lines, up to date.

Map of the Whittier-Olinda Oil District, Southern California (blue line print); showing the location of different wells which have been drilled, and indicating those which are productive, non-productive, and those at present being drilled.

IN PREPARATION.

(Similar to foregoing) Maps of Ventura, Santa Barbara, San Luis Obispo, Kern, Fresno, Monterey, San Benito, San Mateo and Humboldt counties, showing the oil districts, and result of operations in these counties.

OTHER WORK OF THE BUREAU.

In addition to the regular work of the Bureau, many matters affecting the welfare of the mining industry have been taken up, and as occasion demanded. These have been so numerous that it would be difficult to particularize in the space allowed for this report. Among the more prominent matters, however, might be cited the following:

Work on Structural Materials. An exhibit of California's structural materials has been planned for installation in the large space at the entrance to the Museum of the Bureau. This exhibit is to be of a practical character and to include such structural materials as granite, sandstone, marble, terra cotta and other clay products; brick, tiling, slate, magnesite and cement; in fact, all California materials which enter into building construction.

One of the objects of this exhibit is to illustrate to architects and builders the superiority of California material, and to promote home industry.

Meetings have been held with producers and their coöperation has been secured, and the various exhibits will be installed as soon as assembled.

In addition to exhibit work, a campaign was inaugurated by the Bureau, which was carried on throughout the State, urging upon the public, and state, county and city officials in particular, the necessity for patronizing home industry by using California materials in structural work. The result of this campaign has been far reaching, and has been productive of very good results.

It has also stimulated different public bodies to work along the same lines. In this public movement, the Bureau is coöperating with the various home industry leagues, chambers of commerce, boards of trade, and similar organizations.

In the course of our investigations in connection with this work, it was ascertained that the Government, in its construction of public buildings in this State, was discriminating against the use of California material. This matter was taken up with our Senators and Representatives in Congress, and they promptly presented it to the Secretary of the Treasury. The results so far have not proven to the benefit of California, for the architect of the treasury has indicated that California has nothing to say as to the class of materials which shall be used, or where they come from. Such appear to be the only replies obtainable by our representatives, in response to numerous requests that California products be given an even chance with those from other states or foreign countries.

It has been shown by the Bureau that were our own material used in the construction of Federal Buildings in California, a large saving in cost could be effected, and that superior materials compared with those selected could be supplied.

This unjust discrimination applies to different structural products. It is the intention to again take this matter up after the assembling of Congress.

THE PROTECTION OF THE PUBLIC FROM STOCK SWINDLERS.

The warfare commenced under my administration several years ago, against the operations of stock swindlers, has been continued during the past two years. The recent oil excitement has offered a field for the unscrupulous promoter, and a number of fraudulent companies were organized, and stock sold to the unwary investor.

When our appropriations would permit, special agents were appointed, and upon their obtaining the evidences of fraud, prompt exposures of such companies through the press were made. In all cases the evidence was submitted to the United States postal authorities, and requests were made that fraud orders against the offending companies be issued.

In most cases it has been found that these companies disposed of their stock at points outside of the State. Where stock was sold within the State it was sometimes found difficult to induce the investor to commence criminal prosecution, but, where a disposition to prosecute was exhibited, the Bureau has coöperated in such proceedings, and several of the cases are now pending, and it is believed convictions will be secured.

While California is not entirely free from this class of operators, the efforts expended by the Bureau in the exposure or punishment of them have been productive of good results, and the number of fraudulent promoters has been materially lessened.

As a means of preventing as far as possible the operations of these stock swindlers, the suggestion is made of creating the office of state commissioner of corporations, who would be empowered to investigate the holdings, capitalization, title, responsibility, etc., of any corporation seeking to do business in this State, and before a license should issue to them. In my opinion, this would prove to be the best solution of a very difficult problem. Such commissioner could also have the power of examining at any time subsequent to the granting of a license, into all books, papers, and holdings of a corporation.

During the course of the Bureau's investigations into fraudulent oil and mining companies, it was found that, invariably, the capitalization was very large, the holdings in some cases consisting of worthless mining locations; in others, of options to purchase, which options were never closed. In some instances, leases of no value were secured, but they served as a basis for the faker to operate on. Cases can also be cited where the corporation holdings were only on paper, and the stock buyers' interests consisted solely of nicely engraved certificates. These illegal practices could in a large measure be eliminated by a corporation commissioner. Mining frauds and methods of prevention have attracted much attention to this subject. California has taken the lead in the matter, and I am pleased to say suffers less from the fraudulent promoter than any other mining State at this time.

PROTECTION OF MINERAL LANDS.

During the past two years the work inaugurated under my administration for the protection of mineral lands from timber, scrip or homestead entry has been continued. Several cases have also been investigated where patents had been wrongfully granted under the homestead act, and the attention of the proper Government officials was called to the matter, with the result that the patents will probably be set aside. The Bureau has coöperated with the United States Land Office, and many cases of fraudulent entry have been investigated, and action has been taken by the Government towards their cancellations.

Among the most notable cases was that of the "Yard Locations," wherein about 265,000 acres of timber lands in Butte and Plumas counties were entered as mineral lands, under the placer act. At the time that these locations were being made (1902), I had the matter investigated, and the attempted fraud was exposed by me in the public press, and the attention of the Commissioner of the General Land Office was called thereto. It was also brought before the Forest Service. Final decisions have been rendered during the past year cancelling Yard's locations.

Undoubtedly the attempt mentioned at grabbing timber land under the guise of placer locations was the most stupendous of its kind in the history of the United States Land Office. Several thousand acres of mineral land in Plumas County, which had been fraudulently entered as timber land, have also been restored to the public domain, and several suits are now pending, looking towards a cancellation of timber entries covering a large area of mineral lands.

In 1902, I called the attention of the Government to the fraudulent entry of all the lands mentioned, and again at different times from that year until 1905. In the latter year, at the request of the Commissioner of the United States Land Office, an examination of the lands, covering seven townships, was made under my direction, and a report concerning their mineral character was furnished to him. The report submitted was the basis for the recent action.

It is to be regretted that the Government has not in the past given more attention to the fraudulent entry of mineral lands, which have been grabbed under the homestead act. Thousands of acres of land, of which there is no question of its mineral character, have been homesteaded purely from a speculative standpoint. Particularly is this the case in the counties of El Dorado, Amador, Calaveras, Tuolumne and Mariposa. Conditions are such that the prospector is practically barred from these counties, and notwithstanding there is abundant evidence to show that were the lands still open to mineral location, large amounts of gold might be recovered from them.

CONDITION OF THE INDUSTRY.

The total mineral production in 1909, inclusive of the precious metals, was $82,972,209. This is more than four times the total for 1887, which was reported to be $19,785,868. Ten years later, in 1897, the total value of the mineral output of California was $25,142,441. In 1907 the total was $55,697,949.

This rapid and continual growth of the mining industry in California is of sufficient importance to deserve general attention. Since 1906 a thorough and general inquiry has been made annually regarding all the sources of production, including the smallest. Thousands of letters have been sent annually to producers and to those who are connected with the mining industry in various ways, to smelters, refineries, etc., and the work of the statistical department of the Bureau has been broadened to include all possible authorities. I have thereby discovered that there are sources of information that are entitled to add to the creditable showing by this State to which due attention had not been paid prior to 1907.

The growth in the totals for structural materials furnishes a striking evidence of this fact. In 1905, for instance, the counties that were credited with producing macadam numbered only thirteen and the rubble producing counties were reported to be only nineteen in number. I was not satisfied with this showing. A change of method was caused by me in the statistical department at the end of 1906. The counties producing macadam, as reported in 1909, numbered thirty-two, and those that produced rubble, as accounted for, numbered twenty-one. The results of a better statistical search for the values and quantities of structural materials, to pursue this subject a little further, are illustrated by the following comparison:

Value of structural materials produced in 1905, $7,943,288.

Value of structural materials produced in 1909, $13,123,830.

The importance of the structural and industrial materials is vast. In such materials there is a source of increasing wealth and the dissemination of full and accurate knowledge regarding them serves as an advertisement of the first order for the variety and completeness of the mineral resources of California.

Petroleum has added greatly to the total of all products for the year 1909. The total output of petroleum in 1900 was 4,329,950 barrels, valued at $4,152,928. In 1907 the production was 40,311,171 barrels, valued at $16,783,943; for 1908 the showing was 48,306,910 barrels, valued at $26,566,181. The petroleum produced in 1909 amounted to 58,191,723 barrels, valued at $32,398,187.

There has been a large growth in the mining industry of California since my preceding biennial report. The production of all minerals in 1907 represented $55,697,949; in 1908 the total was $66,363,198. The total for 1909 was more than $82,000,000. The production in 1909 is summarized as follows, on the basis of the reports submitted by the producers:

Article.	Quantity.	Value.
Asbestos	65 tons	$6,500
Asphalt	136,664 tons	1,707,159
Bituminous rock	34,123 tons	116,436
Borax	33,257,000 lbs.	1,163,960
Cement	3,779,205 bbls.	4,969,437
Chrome	436 tons	5,309
Clay (brick)	333,846 M	3,059,929
Clay (pottery)	299,424 tons	465,647
Coal	49,389 tons	216,913
Copper	65,727,736 lbs.	8,478,142
Fuller's earth	459 tons	7,385
Gems	....	193,700
Gold	....	20,237,870
Granite	358,008 cu. ft.	376,834
Gypsum	30,700 tons	138,176
Infusorial earth	500 tons	3.500
Iron ore	108 tons	174
Lead	1,343 tons	144,897
Lime	520,752 bbls.	577,824
Limestone	337,676 tons	419,921
Macadam	3,567,120 tons	1,636,125
Magnesite	7,942 tons	62,588
Manganese	3 tons	75
Marble	79,600 cu. ft.	238,400
Mineral paint	305 tons	2,325
Mineral water	2,449,834 gals.	465,488
Natural gas	1,148,467 M cu. ft.	616,932
Paving blocks	4,503 M	199,803
Petroleum	58,191,723 bbls.	32,398,187
Platinum	416 ounces	10,400
Pyrites	457,867 tons	1,389,802
Pumice stone	50 tons	500
Quicksilver	16,217 flasks	773,788
Rubble	1,964,441 tons	1,071,701
Salt	155,680 tons	414,708
Sand (glass)	12,259 tons	25,517
Sandstone	79,240 cu. ft.	37,032
Silver	....	1,091,092
Slate	6,961 squares	45,660
Soda	7,712 tons	11,593
Soapstone	33 tons	280
Tungsten	....	190,500
Total	......	$82,972,209

The noteworthy gains for 1909 as compared with 1908 were made by petroleum, gold, cement, coal, copper, lead, rubble, natural gas, tungsten, silver and pottery clays. Metallic substances in 1909 were produced, including gold, silver, pyrites, quicksilver, copper, lead, tungsten, platinum, and chrome; the non-metallic substances, including borax, coal, mineral waters, salt, infusorial earth, gypsum, magnesite, manganese, mineral paint, fuller's earth, soda, chrysoprase, tourmalines and other gems produced in 1909 represent a value of $2,687,411.

Hydrocarbons and gases produced in 1909 were valued at $34,838,714, which was an increase of $6,605,755. These include asphalt, petroleum, natural gas and bituminous rock. The increase in the production of petroleum amounted to 9,884,813 barrels. The value of petroleum produced in 1909, estimated f. o. b. at the wells, amounted to $32,398,187.

The value of structural materials credited to the production of 1909 was $13,123,830, these including cement, brick and pottery clays, lime and limestone, macadam, rubble and concrete rock, paving blocks, marble, granite, sandstone, slate and glass sand.

The production of the principal substances entitle them to rank as follows: Petroleum, gold, copper, cement, clays and their products, asphalt, macadam, pyrites, borax and rubble.

All the asbestos produced in California in 1909 was from Amador, Placer and Riverside counties.

Asphaltum was produced in the counties of Kern, Fresno, Los Angeles, Santa Barbara, Alameda, Contra Costa, San Luis Obispo and San Francisco. It was almost entirely derived from the refining of petroleum.

Bituminous rock was quarried in San Luis Obispo and Santa Cruz counties.

Borax was produced in Inyo, Los Angeles and Ventura counties.

Brick clays were utilized in the counties of Alameda, Butte, Contra Costa, Fresno, Humboldt, Imperial, Kern, Kings, Los Angeles, Marin, Mendocino, Merced, Orange, Riverside, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Shasta, Solano, Sonoma, Tulare, Amador, Monterey, Placer, Stanislaus, Yuba and Ventura.

Clay for pottery came from Alameda, Amador, Calaveras, Los Angeles, Placer, Riverside, Humboldt, Sonoma, Orange, Santa Cruz, Solano and San Bernardino counties.

Chrome was mined in Shasta, Amador and Tuolumne counties.

Coal was produced in Amador, Contra Costa, Riverside and Monterey counties.

Copper was produced in the counties of Amador, Calaveras, Inyo, Madera, Placer, Riverside, San Bernardino, Del Norte, Shasta, Mono, Fresno, Tulare and Tuolumne.

All the fuller's earth came from Kings and Kern counties.

Glass sand was produced in Los Angeles, El Dorado and Monterey counties.

Granite was quarried for building purposes, etc., in the counties of Madera, Nevada, Placer, Riverside, Sacramento, San Bernardino, San Diego, Fresno, Sonoma and Plumas.

Gypsum was derived from Kern, Kings, Monterey, San Bernardino, Riverside and Los Angeles counties.

Lead came from Inyo, Kern, Placer, Mono, Siskiyou, Shasta, Trinity, Tuolumne and San Bernardino counties.

Iron ore from Shasta County.

Lime was quarried and burned in the counties of Amador, El Dorado, Kern, Monterey, Placer, Riverside, Siskiyou, Santa Clara, Santa Cruz, Shasta, Contra Costa and Tuolumne.

Limestone was quarried for beet sugar factories, fluxes, paving, etc., in Monterey, Contra Costa, Calaveras, San Bernardino, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Siskiyou, San Mateo and Tuolumne counties.

Marble was quarried in Los Angeles, San Bernardino and Tuolumne counties.

Macadam quarries were operated and sand and gravel deposits worked in the counties of Alameda, Contra Costa, Los Angeles, Riverside, Sacramento, San Benito, San Bernardino, San Francisco, San Mateo, Santa Cruz, Butte, El Dorado, Humboldt, Mariposa, Monterey, Napa, Nevada, Orange, Shasta, Santa Clara, San Diego, Ventura, Yuba, Sonoma, Fresno, Glenn, Mendocino, Madera, Marin, Santa Barbara, Stanislaus and Siskiyou.

Mineral paint came from Stanislaus and Kings counties.

Manganese came from Plumas County.

Magnesite was mined in Riverside, Tulare, Fresno and Santa Clara counties.

Mineral waters were bottled and sold from springs in the counties of Butte, Colusa, Lake, Los Angeles, Mendocino, Napa, San Benito, Santa Barbara, Santa Clara, San Luis Obispo, San Diego, Shasta, Siskiyou, Solano, Sonoma, Tehama, Contra Costa, Marin, Monterey and Riverside.

Natural gas was commercially utilized in Sacramento, San Joaquin, Kern, Kings, Humboldt, Tulare, Santa Barbara, Solano and Ventura counties.

Paving blocks were quarried and made in Riverside, San Bernardino, Solano and Sonoma counties.

Petroleum was derived from the counties of Fresno, Kern, Los Angeles, Orange, Santa Barbara, Santa Clara, San Luis Obispo and Ventura.

Alameda and Shasta counties furnished all the pyrites.

Quicksilver was produced in Colusa, Lake, Napa, San Benito, San Luis Obispo, Santa Clara, Monterey, Sonoma and Trinity counties.

Rubble was quarried in the counties of Los Angeles, Alameda, Colusa, Monterey, Siskiyou, Marin, Napa, Placer, Riverside, San Bernardino, San Diego, Santa Barbara, Solano, San Francisco, Contra Costa, Nevada, Madera, San Luis Obispo, Sonoma, Ventura and Sacramento.

Salt came from Alameda, Los Angeles, San Diego, Solano, Tehama, San Bernardino and San Mateo counties.

Sandstone was quarried in Colusa, Santa Barbara and Siskiyou counties.

Slate came from El Dorado County.

The gems came from the counties of Los Angeles, San Bernardino, San Diego, Tulare, Kern and San Mateo.

With this report, copies of all bulletins and maps which have been issued since my last report, and which have herein been described, are presented.

Respectfully submitted.

LEWIS E. AUBURY,
State Mineralogist.

MINING BUREAU ACT.

CHAPTER CLXIII

An act to provide for the establishment, maintenance, and support of a bureau, to be known as the State Mining Bureau, and for the appointment and duties of a board of trustees, to be known as the Board of Trustees of the State Mining Bureau, who shall have the direction, management, and control of said State Mining Bureau, and to provide for the appointment, duties, and compensation of a State Mineralogist, who shall perform the duties of his office, under the control, direction, and supervision of the Board of Trustees of the State Mining Bureau.

[Approved March 23, 1893.]

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. There shall be and there is hereby established in the State of California a Mining Bureau, the principal office of which shall be maintained in the city of San Francisco, which said Mining Bureau shall be under the supervision of a Board of Trustees, to be known as the Board of Trustees of the State Mining Bureau, and it shall be the duty of, and the Governor of the State of California is hereby authorized and empowered, to appoint five residents and citizens of the State to be such Trustees.

SEC. 2. The appointees shall take the same oath of office as other State officers, and when duly qualified and assembled shall constitute the Board of Trustees of the State Mining Bureau. They shall hold office for four years from the date of their appointment, or until the qualification of their successors, and shall receive no compensation for their services. They shall receive their necessary traveling expenses when attending regular meetings of said Board, said traveling expenses to be approved and audited by the State Board of Examiners. The said expenses shall be paid out of the Mining Bureau Fund and not otherwise. They shall have control of all properties and funds of said Bureau, and shall have the power by the name of said Board to sue and defend. Three of them shall constitute a quorum for the transaction of business. They shall elect one of their number to be President of said Board, and shall keep a record of their proceedings. They shall adopt rules and regulations for their government not in conflict with the laws of the State.

SEC. 3. It shall be the duty of the Governor of the State of California, and he is hereby empowered to appoint a citizen and resident of this State, having a practical and scientific knowledge of mining and mineralogy, to the office of State Mineralogist, which office is hereby created. Said State Mineralogist shall hold his office for the term of four years from the date of his appointment, or until the qualification of his successor. He shall take and subscribe the same oath of office as the other State officers, and shall give bond for the faithful performance of his duties in the sum of twenty-five thousand dollars, said bond to be approved by the Governor of the State of California. He shall receive for his services a salary of two hundred and fifty dollars per month, to be paid in the same manner as the salaries of other State officers, and shall also receive his necessary traveling expenses when traveling on the business of his office, said expenses, when approved by the Board of Trustees of the Mining Bureau, to be allowed and audited by the State Board of Examiners. The said salary and expenses shall be paid out of the Mining Bureau Fund, herein provided for, and not otherwise.

SEC. 4. It shall be the duty of said State Mineralogist to make, facilitate, and encourage special studies of the mineral resources and mineral industries of the State. It shall be his duty: To collect statistics concerning the occurrence of the economically important minerals and the methods pursued in making their valuable constituents available for commercial use; to make a collection of typical geological and mineralogical specimens, especially those of economic or commercial importance, such collection constituting the museum of the State Mining Bureau; to provide a library of books, reports, drawings, bearing upon the mineral industries, the sciences of mineralogy and geology, and the arts of mining and metallurgy, such library constituting the Library of the State Mining Bureau; to make a collection of models, drawings and descriptions of the mechanical appliances used in mining and metallurgical processes; to preserve and so maintain such collections and library as to make them available for reference and examination, and open to public inspection at reasonable hours; to maintain, in effect, a bureau of information concerning the mineral industries of this State, to consist of such collections and library, and to arrange, classify, catalogue, and index the data therein contained, in a manner to make the information available to those desiring it, and to provide a custodian specially qualified to promote this purpose; to make a biennial report to the Board of Trustees of the Mining Bureau, setting forth the important results of his work, and to issue from time to time such bulletins as he may deem advisable concerning the statistics and technology of the mineral industries of this State.

Sec. 5. Said State Mineralogist shall have the right to appoint competent assistants and qualified specialists when necessary in the execution of his plans, and to fix their compensation, but all such appointments and compensations shall be subject to the approval and confirmation of said Board of Trustees, and shall not become effective unless so confirmed and approved. And it shall be the duty of the State Mineralogist to consult the said Board of Trustees upon all matters appertaining to his official duties, and he shall at all times perform such duties subject to the supervision and approval of said Board of Trustees.

Sec. 6. It shall be the duty of the Board of Trustees of the State Mining Bureau, when the funds of said Mining Bureau will permit, to procure and maintain the necessary rooms and furniture for the offices and uses of the said Board of Trustees and the State Mineralogist, and the museum and library of the Mining Bureau in San Francisco; *provided, however*, that the entire expenses of the State Mining Bureau for salaries, assistance, light, rent, fuel, furniture, and all other things pertaining to said Bureau must not, in any one year, be greater than can be paid out of the Mining Bureau Fund herein provided.

Sec. 7. The Board of Trustees of the State Mining Bureau shall manage and control all the finances of said Mining Bureau, and shall make rules regulating the custody and disbursement of the funds of the State Mining Bureau, and the mode of drawing the same from the state treasury.

Sec. 8. The Board of Trustees of the State Mining Bureau shall biennially report to the Governor of the State the condition of the Bureau, with a statement of the receipts and disbursements in detail, and with said report shall be incorporated the biennial report of the State Mineralogist, and the report of said Board of Trustees and State Mineralogist shall be printed as are the reports of the other State officers. The Board of Trustees is hereby empowered to fix a price upon, and to dispose of to the public, at such prices, any and all publications of the Bureau, including reports, bulletins, maps, registers, etc. The sum derived from such disposition must be accounted for and used as a revolving printing and publishing fund for other reports, bulletins, maps, registers, etc. The prices fixed must approximate the actual cost of printing and issuing the respective reports, bulletins, maps, registers, etc., without reference to the cost of obtaining and preparing the information embraced therein.

Sec. 9. The Board of Trustees of the State Mining Bureau are hereby empowered and authorized to receive, on behalf of the State, for the use and benefit of the State Mining Bureau, gifts, bequests, devises, and legacies of real or other property, and to use the same in accordance with the wishes of the donors; and if no instructions are given, by said donors, to manage, use, and dispose of the said gifts, bequests, and legacies for the best interests of the said Mining Bureau in the manner they may deem proper.

Sec. 10. The State Mineralogist may, with the approval of the Board of Trustees of the State Mining Bureau, prepare a special collection of ores and minerals of California, to be sent to any world's fair or exposition at which they may deem it advisable or desirable to display the mineral wealth of the State.

Sec. 11. The Mining Bureau Fund herein mentioned, and out of which all the expenses of the State Mining Bureau shall be paid, shall consist of such property or moneys as may come into the hands of the Board of Trustees of said Bureau by gift, bequest, devise, or legacy; of such moneys as may, from time to time, be appropriated by the legislature of the State for the use of said Bureau, and of such moneys as shall be paid into the state treasury for the use and benefit of said Bureau.

Sec. 12. Repealed.

Sec. 13. Repealed.

Sec. 14. The Board of Trustees, now known as the Board of Trustees of the State Mining Bureau, shall perform the duties of the Board of Trustees of the State Mining Bureau, as in this act provided, and administer the affairs of the State Mining Bureau, as in this act provided, until the appointment and qualification of their successors, as in this act provided, and the State Mineralogist, now performing the duties of the office of State Mineralogist, shall perform the duties of the office of State Mineralogist, as in this act provided, until the appointment and qualification of his successor, as in this act provided.

Sec. 15. The act entitled "An act to provide for the establishment and maintenance of a Mining Bureau," approved April sixteenth, eighteen hundred and eighty, and the act entitled "An act supplementary to an act entitled 'An act for the establishment and maintenance of a Mining Bureau,' approved April sixteen, eighteen hundred and eighty, approved March twenty-first, eighteen hundred and eighty-five," and all acts and parts of acts in conflict with the provisions of this act are hereby repealed.

Sec. 16. This act shall take effect and be in force from and after its passage.

STATE MINING BUREAU PUBLICATIONS.

	Price	Postage
Report XI—1892. First Biennial	$1.00	$0.15
Report XIII—1896. Third Biennial	1.00	.20
Bulletin No. 6—"Gold Mill Practices in California" (3d ed.)	.50	.04
Bulletin No. 9—"Mine Drainage, Pumps, Etc.," bound	.60	.08
Bulletin No. 15—"Map of Oil City Oil Fields, Fresno County, California"	.05	.02
Bulletin No. 23—"Copper Resources of California"	.50	.12
Bulletin No. 27—"Quicksilver Resources of California" (2d edition)	.75	.14
Bulletin No. 30—"Bibliography Relating to the Geology, Palæontology and Mineral Resources of California," including List of Maps	.50	.10
Bulletin No. 31—"Chemical Analysis of California Petroleum"	...	.02
Bulletin No. 32—"Production and Use of California Petroleum"	.75	.08
Bulletin No. 36—"Gold Dredging in California" (3d edition)	.50	.08
Bulletin No. 37—"Gems and Jewelers' Materials of California" (2d edition)	.50	.08
Bulletin No. 38—"Structural and Industrial Materials of California"	.75	.20
Bulletin No. 45—"Auriferous Black Sands of California"	.10	.02
Bulletin No. 46—"Index of Mining Bureau Publications"	.30	.06
Bulletin No. 50—"Copper Resources of California" (revised edition)	1.00	.20
Bulletin No. 54—"Mineral Production of California"—1908	...	.02
Bulletin No. 55—"Mineral Production of California for 22 Years"	...	.02
Bulletin No. 56—"Minerals of California, Mining Laws, Maps, Etc."	...	.05
Bulletin No. 57—"Gold Dredging in California" (revised edition); paper bound	1.50	.15
Bulletin No. 57—"Gold Dredging in California," (revised edition); cloth bound	2.00	.20
Bulletin No. 58 (Preliminary)—"Mineral Production of California," 1909	...	.02
Bulletin No. 59 (Preliminary)—"Mineral Production of California for 23 Years"	...	.02
Bulletin No. 60—"Minerals of California, Mining Laws, Maps, Etc." (in press)	...	.05
California Mine Bell Signals (Cardboard)	.05	.02
California Mine Bell Signals (Paper)	.03	.02
Register of Mines, with Map, Amador County	.25	.08
Register of Mines, with Map, Butte County	.25	.08
Register of Mines, with Map, El Dorado County	.25	.08
Register of Mines, with Map, Inyo County	.25	.08
Register of Mines, with Map, Kern County	.25	.08
Register of Mines, with Map, Lake County	.25	.08
Register of Mines, with Map, Mariposa County	.25	.08
Register of Mines, with Map, Nevada County	.25	.08
Register of Mines, with Map, San Diego County	.25	.08
Register of Mines, with Map, Santa Barbara County	.25	.08
Register of Mines, with Map, Shasta County	.25	.08
Register of Mines, with Map, Sierra County	.25	.08
Register of Mines, with Map, Siskiyou County	.25	.08
Register of Mines, with Map, Trinity County	.25	.08
Register of Mines, with Map, Tuolumne County	.25	.08
Register of Mines, with Map, Yuba County	.25	.08
Register of Oil Wells, with Map, Los Angeles City	.35	.02
Map of El Dorado County Showing Boundaries National Forests	.20	.02
Map of Madera County Showing Boundaries National Forests	.20	.02
Map of Placer County Showing Boundaries National Forests	.20	.02
Map of Shasta County Showing Boundaries National Forests	.20	.02
Map of Sierra County Showing Boundaries National Forests	.20	.02
Map of Siskiyou County Showing Boundaries National Forests	.20	.02
Map of Trinity County Showing Boundaries National Forests	.45	.02
Map of Tuolumne County Showing Boundaries National Forests	.20	.02
Map of Mother Lode	.05	.02
Map of Desert Region of California	.10	.02
Map Showing Copper Deposits in California	.05	.02
Map of Calaveras County	.25	.03
Map of Placer County	.25	.03

STATE MINING BUREAU PUBLICATIONS—Continued.

	Price	Postage
Map of Plumas County	$0.25	$0.03
Map of San Bernardino County	.25	.03
Mineral and Relief Map of California	.25	.05
Map of Forest Reserves in California (Mounted)	.50	.08
Map of Forest Reserves in California (Unmounted)	.30	.06
Map of Minaret District, Madera County	.20	.02
Map of California Showing Mineral Deposits	1.50	.20
Map of Santa Barbara County Oil Fields	.40	.05
Map of the Santa Maria, Cat Cañon and Lompoc Oil Field	.50	.05
Map of Whittier–Olinda Oil Field	.40	.05
California Oil Field Map, Sheet 1, Showing Los Angeles and Orange Counties, Etc	.33	.05
In Preparation—		
Bulletin—"Petroleum in California"	...	...

REPORT

OF THE

STATE ENGINEER

OF THE

STATE OF CALIFORNIA

November 30, 1908, to November 30, 1910

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1911

Office of the Department of Engineering,
Sacramento, California, November 30, 1910.

To His Excellency, James N. Gillett,
Governor of the State of California.

Sir: I herewith submit for your consideration the report of the Department of Engineering, covering the period from November 30, 1908, to November 30, 1910, as provided for in Chapter 183 of Statutes and Amendments, 1907.

Very respectfully,
NATHANIEL ELLERY,
State Engineer.

Attest:
H. S. MORROW, Secretary.

OFFICIAL DIRECTORY OF THE DEPARTMENT.

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W. V. STAFFORD, *President State Board of Harbor Commissioners*	Member.
F. W. HATCH, *General Superintendent of State Hospitals*	Member.
NATHANIEL ELLERY, *State Engineer*	Member.

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ALEX. GORDON, *President.*

G. W. TATTERSON. M. J. BOGGS.
W. J. SMITH. E. S. BROWN.

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State Architect	W. D. COATES, JR.
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Assistant State Engineer	P. M. NORBOE.
Secretary	H. S. MORROW.
Engineer's Draftsman	H. J. BRUNNIER.
Engineer's Draftsman	EDWARD GOODWIN.
Mechanical Engineer	R. W. TEMPEST.
Architectural Designer	M. I. DIGGS.
Architectural Draftsman	W. J. YOUNG.
Architectural Draftsman	C. F. DEAN.
Architectural Draftsman	O. R. BAXTER.
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Stenographer and Clerk	MISS A. M. DUDLEY.
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Porter	CHARLES PRINCE.

REPORT OF THE DEPARTMENT OF ENGINEERING.

About four years ago, or at the 1907 session of the Legislature of California, there was enacted into law a measure that created the Department of Engineering. At that time it was not expected to be perfect, the idea being to eventually work out the problems for the State for the concentration or consolidation of its technical departments; the architectural and engineering lines. Divided authority under the original law permitted of divided responsibility. Therefore, the centralization of sufficient power under one head was necessary to eliminate the probability of any shift of blame. It is by this method in governmental affairs that we obtain more effective results, and greater economies for the people. The Department of Engineering began its official life at a time when it was necessary for the State to construct a great many buildings to replace those destroyed about a year earlier. There was, therefore, placed upon the department a great mass of work, and for the new venture it was necessary to get together a force of help that would carry out the work of the State in a manner that would show that the inauguration of a department of this nature was not fanciful, but of the utmost importance in the governmental affairs of California. With this idea in view, it was no easy task to organize a department of the size needed, when old political traditions had to be greatly eliminated and partially trampled under foot.

We began by but partly taking over the powers or prerogatives relating to construction of the numerous boards of managers, or other institutional boards, who had charge of various institutions for the State, and for two years we conducted the affairs of the department in an endeavor to have harmony, and to get the best results from the money expended by the State. It was noted by those who observed the situation of a new department of this nature, that it would be necessary to concentrate more power into the department, that it might have proper effectiveness; that is to say, the powers of the various boards of managers to award contracts, purchase materials, to make payments on day labor work, and hire the day laborers, as they were enabled under the law of 1907, gave unsatisfactory results, and it was therefore necessary at the session of 1909 of the California Legislature to grant the Department of Engineering those powers of buying, awarding contracts, and doing all things necessary for the construction of the various works of the State, and after their construction to turn them over to the respective boards or institutions for which they were constructed. Personally, I had observed for some years prior to 1907 the working of institutional affairs, and it was my belief and opinion that to bring together all this technical work under one head was proper to create a proper economy in the expenditure of the funds for this class of work. I held that belief then, and I still hold to that belief, and I am prepared by figures to show that such is the actual case. It is but reasonable to suppose that, where the work is spread among a number of boards, that you can not get uniformity, and you can not get the best results, nor can you get the best economy. Later in this report, I shall bring to your attention facts and figures that will indisputably prove my contentions. There is no good reason why California should not profit by running her government upon a business basis, and there is no good reason why the Department of Engineering should not run its affairs upon such a basis. For four years now we have striven to give the State good service along the lines of our work, and I believe that, by a careful perusal of the report that follows, an unbiased opinion of the same will indicate that we have been fairly successful, and surely have the department now in an advantageous position for certain success in the future. We have itemized the cost of buildings: something never done before in California for the State. We have received daily reports on all the construction work for the State, and this, too, is an innovation. We have gone into the merits of every bill that has come before us, and this, too, I state is an innovation in our State. We have endeavored to see that the State received full value for its expenditures; we have endeavored to give each and every seller an equal opportunity; and, in doing this, it is necessary to come into contact and conflict with the people who are desirous of obtaining advantages which they should not obtain. This department has struggled against these things, and it has also struggled to obtain the good will of the people with whom it was working, but if it is necessary to protect the interests of the State and lose the good will of those with whom we are working, then we must lose such good will, but if we can bring about a condition of both harmony and effectiveness in saving to the State, that then is the thing to be sought. I regret to state that we have not been enabled to fully realize the last position, but the department has conscientiously endeavored to bring about a condition of harmony and satisfaction to the people of the State. If certain interests will not be harmonized, then this department can not be blamed for such.

Again, the quantity of work placed upon the department has been the subject of considerable discussion, yet there was no time at which the department could not handle three times the work that it had, and it can now do so, because we are handling this department upon a basis that when work is slack and help is not needed we shall curtail our force and our salary list. The desire to reduce the power of the department, and return the power to its old possessor, began the disguised attack that we are overburdened with work. This is absolutely not the fact. This method of attack to destroy a department has its political bearing, but has no place in the business of a state. For a year and a half there has been an endeavor to get the San Francisco Armory building before the department, that we may have some work for some of the statutory people to continue upon without being interrupted in the architectural line. This to date has not come before the department, and I state, without fear of contradiction, that this building could at this date be practically completed had we been given the opportunity to get the plans at the time when we sought the same. There are other constructions that have not come to our department, on account of some disagreement or other for which we are in no way responsible, but which we would be glad to obtain that we may keep our architectural department at a high standard of efficiency. We have repeatedly requested work—as the detached cottages for females at Napa State Hospital—in order to complete it before reducing the working force of the office, and thus cheapen the plans. In the past three years we have carried on about six million dollars worth of building construction in the most economical manner. The state could easily have expended a million and a half more dollars on this work, if its constructive work was carried on at the prices and in the manner that a great many of the subdivisions of the state carry on their work.

Another item of saving to California has been the architectural or drafting fees that have been usually charged for such work in our state. I remember distinctly, before the formation of the Department of Engineering, when architectural fees and allied fees were charged for plans, etc., that were exorbitant for plans or specifications that were totally inadequate and incomplete. This we have stopped, and we have placed with the State plans for its buildings which are the equal of any in California.

There has been no special effort made to assist this department in its growth. On the other hand, its existence has been contested, but it is firmly believed that a department of this nature, when conducted on business principles, will stand, and will survive any attack not founded on truth and fairness. It has been cramped at its very beginning, in the space allotted to it in which to do its work. We are still in such a cramped position that we cannot do good work, and, outside of a few filing documentary cases that we have gotten through our contingent fund, we have no filing cases to speak of, and to-day a great many of the department's papers are filed in old wooden furniture placed in the hallway of the State Capitol. A department of the magnitude and importance of the Department of Engineering should not be called upon to do these things, but should be given every facility to furnish and get out the proper work. It has been a very difficult matter to ascertain exactly the needs of the new department, but at the present time I believe that the contract law as it is now on our statute books is more efficient than any such law we have had heretofore. For the past two years we have established a testing laboratory for the testing of all of our cement, and it seems to me that the man who is employed could easily test the cement on the San Francisco harbor front, and thereby save to the State that unnecessary expense.

We have recently adopted a new plan with our documentary files, and also for the filing of maps and drawings in connection with all state work. I believe now that we have an efficient and simple scheme by which we can render information to any one desiring the same, upon very short notice. Later in this report will be given the costs of fees for architectural work under this department, and costs of fees before the establishment of this department, as also will be given costs of various matters which we are able to get, that we may present to you the proper status of the Department of Engineering, and determine whether it has been of service and economy to the State, or whether it has not been. I, therefore, call your attention to the facts as presented along these lines at a future time in this report, that the proper unbiased conclusions may be had in the matter, and the standing of this department determined.

The work of the University of California does not come under the department's charge at all, but the work on the San Francisco water front comes under its charge in an advisory way.

Herewith is presented the law for contracts for the state, and also the department of engineering law, that your attention may be directed to the changes in these laws, in so far as they relate to the powers of the department. A comparison will clearly show the institutional powers during the first two years of the existence of the department.

LAW FOR STATE CONTRACTS.

SECTION 1. Whenever provision is made by law for the erection, construction, alteration, repair or improvement of any state structure, building, road, or other state improvement of any kind, excepting improvements on the property of the state on the water front of the city and county of San Francisco, under the jurisdiction of the board of state harbor commissioners, the total cost of which will exceed the sum of one thousand dollars, the same shall be under the sole charge and direct control of the department of engineering. Said department, before entering into any contract for the erection, construction, alteration, repair, or improvement of any state structure, building, road, or other state improvement of any kind, shall prepare full, complete, and accurate plans and specifications and estimates of cost giving such directions for the same as will enable any competent mechanic or other builder to carry them out. The plans, specifications, and estimates of cost, must be approved by the advisory board of the department of engineering, and the original draft thereof filed permanently in the office of the department of enginering before further action is taken.

SEC. 2. Said department of engineering shall, after the approval and filing of plans, specifications, and estimates of cost, as in this act required, let such work by contract to the lowest responsible bidder or bidders, upon public notice which shall be given as follows: Notice of such work must be published once a week, for three consecutive weeks next preceding the day set for the receiving of bids, in a paper having a general circulation in the county where the work is to be done; *provided* that, in a record kept for that purpose, the state engineer shall register any one desiring to be so registered for the purpose of becoming a prospective bidder upon state work, which registration shall be renewed on or before the beginning of each fiscal year, and whenever any state work is to be let by contract the state engineer shall cause a notice of the same to be mailed to each of the addresses so registered, at least twenty-five days prior to the date set for the receiving of bids. In each case, such notice must state the time and place for the receiving and opening of sealed bids, and must also state that bids will be received for the entire work, and also, where possible, for the performance of each of the following parts thereof, viz.:

First—For the masonry work, including all brick, stone, terra cotta, and concrete work, and all necessary excavations, and filling.

Second—For the iron work.

Third—For the carpenter, electric, and glazing work.

Fourth—For the plastering work.

Fifth—For the plumbing and gas fitting work.

Sixth—For the heating work.

Seventh—For the tinning, galvanized iron, and slating work.

Eighth—For the painting and graining work.

SEC. 3. On the day named in said public notice the department of engineering shall proceed to publicly open said sealed bids, and shall award such contract or contracts to the lowest responsible bidder or bidders. No bid shall be considered unless accompanied with a bond of said bidder equal to ten per cent of his bid, with sufficient sureties, conditioned that if said bid shall be accepted the party bidding will duly enter into a proper contract, and faithfully perform his or their contract or contracts, in accordance with said bid, and the plans and specifications, which shall be, and are hereby made, a part of such contract or contracts. Such contract or contracts shall not be binding on the state until they are submitted to the attorney general, and by him found to be in accordance with the provisions of this act, and his certificate thereon to that effect made. If, in the opinion of such department of engineering, the acceptance of the lowest responsible bid or bids shall not be for the best interests of the state, it may be lawful for them to reject all bids, and advertise for others in the manner aforesaid. But after the approval of the plans, specifications, and estimates of cost by the advisory board of the department of engineering, if, in the opinion of such department of engineering the acceptance of any bid or bids shall not be for the best interests of the state; or, if in the opinion of such department of engineering the acceptance of any further bids after the rejection of all bids submitted shall not be for the best interests of the state, it may be legal for them to direct that the erection, construction, alteration, repair, or improvement of any state structure, building, road, or other state improvement of any kind, shall be done by day's labor, under the direction and control of the department of engineering. All contracts shall provide that such department of engineering may, as hereinafter provided, and on the conditions stated, make any change in the plans and specifications. Certified copies of such contracts shall be filed with the controller and the board of examiners.

SEC. 4. After the contract or contracts are let, no change shall be made to increase or diminish the cost of any contract in excess of five hundred dollars, except upon the approval of the advisory board of the department of engineering, and then only upon additional plans and specifications and estimates of cost being filed and approved, and amended contracts entered into and filed with the original contract.

SEC. 5. No contract or contracts shall be made exceeding in amount the estimates of costs approved by the advisory board of the department of engineering, and no plans and specifications and estimates of cost, including expense of advertising and inspection, shall be approved by said board, requiring a greater expenditure of money than is appropriated for the specific purpose in the act authorizing the same.

SEC. 6. Payments upon contract shall be made as the department of engineering may prescribe, upon estimates made and approved by the said department, and audited by the board of examiners, but no payment shall be made in excess of ninety per cent of the percentage of actual work completed, to which has been added one half of the value of material delivered on the ground and unused. The department of engineering shall withhold not less than ten per cent of the contract price, until final completion and acceptance of the work. The controller shall draw his warrants upon estimates so made and approved by the department of enginnering, and audited by the board of examiners, and the state treasurer shall pay the same.

SEC. 7. Any member of the advisory board or person employed under the department of engineering, who shall knowingly perform any official act to the injury of the state, or any contractor, or his agent or employé, who shall knowingly permit the violation of the contract of such contractor to the injury of the state, or any agent or employé of any contractor who shall have knowledge of any work being done in violation of contract, and does not immediately notify the department of engineering, or the inspector upon said work, in regard to the same, is guilty of a felony, and, upon conviction thereof, shall be confined in the state prison for not less than one year, nor more than five years, and be liable to the state for double the amount the state may have lost, or be liable to lose by reason thereof.

SEC. 8. Whenever, in the opinion of the department of engineering, the work under any contract made in pursuance of this act, is neglected by the contractor or contractors, or the same is not prosecuted with diligence and force specified or intended in and by the terms of the contract, it shall be lawful for such department of engineering to make a requisition upon such contractor or contractors for such additional specific force, or for such additional specific material, to be brought into the work under such contract, or to remove improper materials from the grounds; of which action of said department of engineering due notice in writing of not less than five days, shall be served upon such contractor, or his or their agent having charge of the work. If such contractor or contractors fail to comply with such requisition within fifteen days, it shall be lawful for said department of engineering to employ upon such work the additional force, or supply the materials so specifically required as aforesaid, or such part of either as they may deem proper, and to remove improper materials from the grounds; and it shall be the duty of such department of enginering to make separate estimates of all such additional force or materials so employed or supplied as aforesaid, and the amount so estimated shall be charged against said contractor or contractors, and deducted from his or their next, or subsequent estimate; or the same, or any part thereof, not paid as aforesaid, may be recovered by action from such contractor or contractors, and their sureties.

SEC. 9. In all contracts made under the provisions of this act, there shall be a provision in regard to the time when the whole, or any specified portion, of the work contemplated in said contract, shall be completed, and also providing that for each and every day the same shall be delayed beyond such time or times so named, the said contractor or contractors shall forfeit and pay to the state a sum of money, to be fixed and determined in said contracts, to be deducted from any payment or payments due, or to become due, to said contractor or contractors. Any such contract shall provide for the filing of a sufficient bond by the contractor to secure the payment of the claims of material men, mechanics, or laborers employed upon state work; a penalty of ten dollars per day to be forfeited to the state for each calendar day during which any laborer, workman, or mechanic is employed or permitted to labor more than eight hours; a minimum compensation of not less than two dollars per day for labor; that no Chinese or Mongolian labor shall be employed; and such other provisions as are now or may hereafter be provided by law.

Sec. 10. An act entitled "An act to regulate contracts on behalf of the state in relation to erections and buildings," approved March 23, 1876, and all acts amendatory thereto, are hereby repealed, and all other acts or parts of acts in conflict with the provisions of this act are hereby repealed. Such repeal shall not affect, however, the operation of any other act heretofore passed, whether such act shall refer to the act hereby repealed or not, so as to exempt any public work from the provisions of this act.

Sec. 11. All of the provisions of this act shall be so construed as to preserve, and keep in full force and effect, all causes of action and actions for penalties which have already accrued or may hereafter accrue under any contract, heretofore entered into, against any contractor or person under and by virtue of the provisions of said act, entitled "An act to regulate contracts on behalf of the state in relation to erections and buildings," approved March 23, 1876, which is repealed by virtue of this act, and all such actions and causes of action may be prosecuted to final judgment, and all such penalties may be imposed and collected, under the provisions of said act so repealed, to the same extent and in the same manner as though said act had not been repealed.

Sec. 12. This act shall take effect immediately.

DEPARTMENT OF ENGINEERING LAW.

Section 1. A department of and for the State of California, to be known as the department of engineering, is hereby created, to consist of an advisory board composed of the governor as an ex officio member and chairman of said board, and a state engineer who shall be the chief executive officer of the department, the general superintendent of state hospitals, and the chairman of the state board of harbor commisioners of San Francisco. The said department, its officers and employés, shall have and exercise the powers and duties hereinafter set forth and specified, and such as are or may be hereafter provided by law.

Sec. 1½. Upon this act becoming effective the governor, by and with the advice and consent of the senate, shall appoint five persons who shall be known as a consulting board to the department of state engineering upon all matters that affect irrigation, drainage and river improvement. Such board shall be appointed from citizens of either the Sacramento or San Joaquin valleys. Such board shall meet at such times as the work requires, and shall meet at least once in two months. They may report to the advisory board upon all matters relating to irrigation, drainage, and river improvement, together with their conclusions thereon; and may render a report to the advisory board upon all plans for river improvements.

Sec. 2. Upon this act becoming effective the governor, by and with the advice and consent of the senate, shall appoint a competent civil engineer as the head of the department of engineering, and such person shall be known as the state engineer. The state engineer shall devote his entire time to the services of the state, and shall not actively engage in any other pursuit while serving as such state official. He shall have charge of all the engineering and structural work of the department, and may receive, by and through the approval of the advisory board, such special assistance of a technical character beyond the employés hereinafter specified, as they shall allow for the proper conduct of the business of the department.

Sec. 3. The state engineer shall hold office for the term of four years from and after the date of qualification, provided however, when a vacancy occurs in the office of state engineer, from whatever cause, the governor shall fill, by appointment, said term for the unexpired part thereof only. Immediately after qualifying, the advisory board shall meet and organize, and shall adopt a seal for the authentication of its acts and records.

Sec. 4. Within twenty days after receiving notice of appointment, the person appointed as state engineer shall file a bond in the sum of twenty thousand dollars ($20,000), with at least two sufficient sureties thereon, or with a surety company of recognized standing, for the faithful performance of his duties; which bond must be approved by the governor, and filed with the secretary of state, and he shall qualify by taking the oath of office as prescribed for other state officers.

Sec. 5. The office of the department of engineering shall be in the state capitol, and the secretary of state shall assign to the department, for its use, such rooms as may be necessary for its accommodation. All of the regular meetings of the advisory board shall be held at such office. The said board may, however, hold such special meetings at such places as the duties of the department, or the best interests of the state, may require. The state board of harbor commissioners for the port of San Francisco shall assign proper rooms in the ferry building at San Francisco for the use of one assistant state engineer and his necessary office help.

Sec. 6. The department of engineering, by and through the state engineer, shall have the power to appoint two assistant engineers, one state architect, one architectural designer, three architectural draughtsmen, two engineer's draughtsmen, one testing engineer, one mechanical engineer, two filing clerks, one blue-print pressman, a secretary, two clerks and stenographers, and one porter and messenger, and such additional technical assistance and help as the advisory board may in their judgment deem necessary, and to fix their salaries and compensation, who shall hold office at the pleasure of the appointive power, and who must be confirmed by the advisory board before proceeding with their duties. Such officers and employés shall not be eligible for appointment unless they possess special qualifications for, and are competent to perform, the duties devolving upon them, and they shall devote their entire time to the service of the department.

Sec. 7. The advisory board shall meet at such times as the work of the department may require, and shall meet at least once in two months. Said board shall advise with the state engineer and state architect as necessity requires, and may advise with the boards of managers or trustees of the various state institutions requiring engineering or structural work, and with any state commission regarding all works wherein such commissions may be interested. The advisory board shall approve all plans and specifications for all public work, and shall determine the kind, quality, and extent of all public work of the state. All boards of managers, trustees, and state commissions of state institutions shall apply to the department of engineering for plans and specifications for all public works coming under their charge, and before accepting any work done under contract shall have a certificate from the state engineer, who shall examine and certify to its completion. All public work coming under the full control of the department of engineering may, upon the discretion of the advisory board, be either contracted for or done by day's labor. The advisory board shall have the power, on the approval of plans and specifications by the state engineer, to direct whether any building or structure at any state institution shall be let by contract in part or in whole, or whether said building or structure shall be built by day's labor in part or in whole, but after approval of the plans, specifications, and estimates by the advisory board of the department of engineering, if, in the opinion of such department of engineering, the acceptance of any bid or bids shall not be for the best interests of the state, or if, in the opinion of such department of engineering, the acceptance of any further bids after the rejection of all bids submitted shall not be for the best interests of the state, it may be legal for them to direct that the work of improvement of any state building, road, or any other improvement be done upon a day's labor basis. Whenever any public work to be done by the state, except work on property of the state on the water front of the city and county of San Francisco under the jurisdiction of the board of state harbor commissioners, is placed upon a day's labor basis, it is especially exempted from any law on or relating to contracts of the state. The full control of such day's labor work is placed under the department of engineering, and said department shall do all things necessary to properly carry out the work. When such work is so placed upon a day's labor basis, any appropriation which is now available, or which is now or may be appropriated to become available, is by this act taken out of the control of any board of trustees, directors, commissioners, officers, or other body to whom it has been appropriated, and placed exclusively under the control of the department of engineering, and the claims for said work shall be approved by the department of engineering, and audited by the board of examiners, upon whose audit the controller shall draw his warrant, and the treasurer shall pay the same. The department of engineering shall have the power to receive informal bids upon any subdivision of the day's labor work, and the state engineer may, upon the approval of the advisory board, enter into an agreement for any such subdivisional work of the day's labor work

Sec. 8. The full control of all public work being done or now completed by the board of public works, shall be assumed by the department of engineering, and all public work done by the state, except as otherwise provided for by law, shall be under the full control of the said department. It shall be the duty of the department of engineering, whenever required by the advisory board, to make examinations of land subject to inundation and overflow by flood waters, and of the waters causing such inundation or overflow, and plans and estimates of the cost for works to regulate and control such flood waters. All matters of drainage, and improving and rectifying river channels and other work on any river or slough flowing into San Francisco bay, San Pablo bay, and Suisun bay, and also the tide waters flowing into said bays, shall be placed under the management and control of the department of engineering whenever the law provides therefor. The department of engineering shall have charge of all expenditures, unless otherwise provided by law, for all public works relating to general river and harbor improvements, including reclamation and drainage of lands. It may purchase, construct, and operate one or more dredges, or any other needed appliances to promote or properly carry out the work of the department. The state engineer, in the name of the State of California, may obtain or condemn any right of way necessary for any construction herein named, and shall proceed, if necessary, to condemn under the terms of the Code of Civil Procedure relating to such proceedings. The department shall have the power to employ such additional help for the performance of the work of this section as the advisory board shall order, and all money now appropriated to the board of public works and remaining unexpended, shall be used for the purposes intended by the law, by the department of engineering, and the state controller shall transfer said funds to the credit of the department of engineering. Wherever under any statutes of this state any duty or obligation, the performance of which is imposed upon the commissioner of public works, or the auditing board to the commissioner of public works, the same shall be assumed, and the performance of the same shall devolve, upon the department of engineering.

SEC. 9. The department of engineering shall take full possession and control of all roads which have been declared state highways, enumerated as follows:

The Lake Tahoe wagon road, the Sonora and Mono road, the Mono Lake Basin road, and all other state highways which may hereafter be constructed, and all public work being done or now completed by the department of highways. All expenditures by the state for highway purposes, except as otherwise hereafter provided by law, shall be under the full charge of the department of engineering, and all moneys appropriated for such purpose shall be made payable upon the proper order of said department, and shall be audited by the state board of examiners. The department of engineering, through its state engineer, shall have the power to obtain or condemn necessary rights of way for the change of any existing state highway, or for any road placed under the department's charge by law, unless otherwise provided. It shall have power to alter or change the route of a road, and shall do all things necessary, and obtain all tools and implements required to properly care for and manage the roads under the charge of the department. The department may, in its discretion, appoint superintendents of the state highways, who shall hold office at the pleasure of the appointive power. They shall, however, be confirmed by the advisory board, and shall be specially qualified in road work. All unexpended balances of money now existing by law for improvements or maintenance of whatever kind, under the department of highways, and the Lake Tahoe wagon road commissioner, shall be placed under the control of the department of engineering, and the state controller shall transfer said funds to the credit of the department of engineering. Whenever under any statutes of this state any duty or obligation, the performance of which is imposed upon the department of highways, the same shall be assumed, and the performance of the same shall devolve upon the department of engineering.

SEC. 10. The department of engineering shall make examination into existing highway conditions in the State of California, and shall, furthermore, make such investigations within the state as will put at the service of the state the most approved methods of highway improvement. It shall supply, on request, without charge, any information relative to highways required by any county or district official having care of, and authority over, highways within this state. It shall collect and collate data relating to the geological formation of the state, in so far as it relates to material suitable for highway construction, and make analyses and tests of such material as it may deem suitable for highway uses, with the view of determining the value of the same for such purposes. All data so collected, together with such other matters of value or interest to the people of the state, shall be published in bulletins, or upon maps or diagrams, or in other proper form, or in the biennial report of the department, as it, in its discretion, shall determine. The department shall prepare and adopt styles and forms of books for use by officials, in which to keep account of the expenditure of highway money, and all other records or proceedings relating to highways. It shall prepare such forms as may be necessary for use in connection with opening, abandoning, altering, locating, constructing, maintaining, obtaining title to, or otherwise relating to proposed state highways; and such books and forms, when so adopted, shall be the standard for use in the state. Copies of them shall be forwarded to the various officials who are charged with keeping or using the same, and such officials shall immediately prepare books and forms after the style shown by such standard, and shall thereafter use them exclusively for the purposes for which they are intended. It shall be the duty of the department to adopt such general forms for the surveying of state highways, mapping, and keeping of the notes thereof, and the permanent marking of the same on the ground, as it shall deem necessary, and shall issue instructions defining such general forms and markings to the person having charge of the making of such surveys; and it shall thereafter be the duty of such persons to follow the methods prescribed in such instructions. The department of engineering, in performance of its duties, shall have the power to call upon any state, county, or district official, to furnish it with any information contained in his office which relates to, or is in any way necessary to, the proper performance of the work of said department; and it is hereby made the duty of such officials to furnish such information without cost.

SEC. 11. All architectural work of the department shall be under the charge of the state architect, and it shall be the duty of said architect to make plans and specifications and estimates for all state building work. He shall, in company with the state engineer, visit and inspect all completed work, and shall certify to the state engineer its proper or improper completion. The state architect shall have general charge under the state engineer, of the erection of all buildings, and must have an inspector at each building during the whole time of its construction.

SEC. 12. One assistant state engineer shall be assigned to the state board of harbor commissioners at San Francisco, where he shall have an office. He shall prepare such plans and specifications as the board may direct, and if adopted, and the work ordered by the board to be done, must superintend its construction. He must give constant attention to the condition of the seawall and thoroughfare, of the sheds, wharves, piers and landings, of the streets or parts thereof under the jurisdiction of the board, and when repairs are needed must forthwith report to the board in writing their nature and extent, and, if ordered by the board, must have the same done at once. He must keep himself informed as to the depth of water in the various docks and slips, and report to the board from time to time what dredging is required. He must keep a register properly indexed, showing the date, place, and character of every piece of work done and dock dredged, when begun and finished, with proper descriptions and drawings. He shall do all engineering work required by the said board of harbor commissioners. Said assistant engineer shall be subject to the control, at all times, of the state engineer, and a copy of all work under his charge as assistant engineer, shall be filed in the office of the department of engineering. A complete record of cost, in detail, of all work done under the supervision of the assistant engineer, shall be filed with the department of engineering upon the completion thereof. One engineer's draughtsman shall be assigned to the said harbor board by the state engineer, and the advisory board of the department of engineering shall employ such field and other assistants to the foregoing assistant state engineer as may be necessary, and such field and other assistants shall be paid from the San Francisco harbor improvement fund.

SEC. 13. All coöperative engineering work now existing, or to be engaged in by the state with the United States government, shall be placed under the department of engineering. All plans, estimates, and specifications shall be approved by the state engineer, and the advisory board shall have full power to determine the kind, quality, and extent of such work under coöperation with said government, before entering into agreement with said government for such work. All unexpended moneys provided for by law on the aforesaid coöperative basis, shall be expressly placed under the full control of the department of engineering, and the state controller shall transfer such funds to the credit of the said department. Hereafter, plans, estimates, and specifications for such work shall be filed in the office of the said department.

SEC. 14. It shall be the duty of the state engineer to consult and advise with the members of the corps of engineers of the United States army comprising the California Débris Commission (created by act of congress approved March first, eighteen hundred and ninety-three), in relation to the construction of works for the restraining and impounding of débris resulting from mining operations, natural erosion, or other causes; and it shall be his duty to examine such works, and to report the result of such examination to the advisory board. Said state engineer is further authorized and directed to consult and advise with said "California Débris Commission" in relation to any and all plans and specifications that may have been, or may hereafter be, prepared or adopted by said "California Débris Commission" for the construction of such restraining or impounding works.

and said state engineer shall file a copy of all such plans and specifications in the office of the department. Whenever the advisory board approves said plans and specifications the state engineer shall notify the "California Débris Commission." Whenever said "California Débris Commission" or the government of the United States shall have entered into any contract for the construction of works for the purposes described in this act, in pursuance of plans and specifications that have been theretofore approved by the advisory board, as in this act provided, it shall then be the duty of the state engineer to cause such work to be carefully inspected during the progress of their construction, and to keep a record of the result of such inspection. Said state engineer shall also from time to time, during the progress of the construction of such works, when requested so to do by the said "California Débris Commission," present his claims to the state board of examiners, in favor of such person or persons as may be designated by said "California Débris Commission," for such amounts as shall equal one half of the cost of the construction of said works; and said state engineer shall in like manner, and when requested so to do by said "California Débris Commission," present his claims to the state board of examiners for an amount equal to one half the purchase price of any site or sites necessary for the construction of said works; provided, that the purchase of said site or sites shall have been first approved by the advisory board. All unexpended balances of money provided by law for the work under the débris commissioner shall be placed to the credit of the department of engineering by the state controller. Whenever under any statutes of the state any duty or obligation the performance of which is imposed upon the débris commissioner, the same shall be assumed, and the performance of the same shall devolve upon the department of engineering.

Sec. 15. When in his judgment it is deemed necessary, the state engineer, subject to the approval of the advisory board, shall employ such assistance on the public work of the state, or on public work at any state institution, as may be necessary for the proper discharge of his duties, and shall, under like restrictions, have the authority to purchase any supplies, instruments, tools, and conveniences as may be necessary for the proper discharge of the duties of the department of engineering. All employés of the department of engineering, when employed upon public work at or for any state institution in this state, shall be paid, unless otherwise provided, from the revolving fund hereinafter created, and the amount of such payment shall be a charge against the institution for which such work is performed, and when collected from said institution by the department of engineering, shall be paid into said revolving fund. In all other cases such employés shall be paid by the department of engineering. All inspectors employed by the state engineer on any public work shall render to the state engineer a full, true, and correct report of the kind, manner, and progress of all work upon which he is such inspector. Any inspector who shall render a false report, knowing the same to be false, shall be guilty of a felony. It shall be the duty of the state engineer to keep a full, true, and correct detailed account of the cost of all work done under the control of the department of engineering, and with the consent of the advisory board, may employ a clerk for the proper compiling thereof. Such accounts shall be always open to the inspection of the public.

Sec. 16. The state engineer shall prepare biennial reports which shall be submitted to the governor at least thirty days before each session of the legislature. Said report shall embrace the work and investigations of the department under his charge for the previous two years, together with such recommendations for changes in the laws affecting the department as he may deem advisable, and shall suggest and recommend changes relating to the road systems, or administration within the state. It shall be the duty of the state printer to print all reports, bulletins, or other matter, and furnish any other necessary illustrations or diagrams therefor as the department may deem necessary, all of which shall, however, be subject to the approval of the state board of examiners.

Sec. 17. The state engineer shall receive the sum of five thousand dollars ($5000) per annum; each assistant state engineer shall receive three thousand dollars ($3000) per annum; the state architect shall receive forty-eight hundred dollars ($4800) per annum; each of the five draughtsmen shall receive two thousand dollars ($2000) per annum; the architectural designer shall receive twenty-four hundred dollars ($2400) per annum; the mechanical engineer shall receive twenty-seven hundred dollars ($2700) per annum; the testing engineer shall receive twenty-one hundred dollars ($2100) per annum; each of two filing clerks shall receive eighteen hundred dollars ($1800) per annum; the secretary shall receive twenty-four hundred dollars ($2400) per annum; the blue print pressman shall receive fifteen hundred dollars ($1500) per annum; each clerk and stenographer shall receive fifteen hundred dollars ($1500) per annum, and the porter and messenger shall receive nine hundred dollars ($900) per annum. Such salaries shall be paid at the same time, and in the same manner, as are the salaries of other state officers. The two assistant state engineers, and the state architect, shall each furnish the state with a bond in the sum of ten thousand dollars ($10,000) for the faithful performance of their duties. Said bonds must be approved by the governor of the State of California, and filed in the office of the secretary of state. Each and every one of the above-mentioned officers shall take the oath of office, as prescribed for other state officers. The members of the advisory board, the state engineer, and the officers and employés of the department of engineering shall be allowed their necessary traveling expenses while engaged in the discharge of their duties within the state.

SEC. 18. The state board of examiners shall audit all bills or claims incurred by the department of engineering, and the state engineer shall present claims to said board for all expenditures directly under his charge. The attorney general of the state shall be the legal adviser of the department of engineering, and the said department shall call upon the attorney general of the state for all such legal advice and services as the discharge of its duties may require.

SEC. 19. The sum of $10,000 is hereby appropriated out of any money in the state treasury not otherwise appropriated, to provide and maintain a permanent revolving fund for the payment of the salaries and wages of employés in the department of engineering, when employed upon public work at or for any state institution other than those employés whose salaries are fixed and determined by section 17 of this act. Such payment so made for salaries and wages shall be charged against the institution for which such work is performed, and in favor of the department of engineering, and when collected by said department, shall be paid into the revolving fund hereby created.

SEC. 20. It shall be the duty of the auditing board to the commissioner of public works, the commissioner of public works, the state highway commissioner, the débris commissioner, and the Lake Tahoe wagon road commissioner, to transfer to the state controller all of the property, books, reports, and papers, and maps of every description which is state property, and the said controller shall transfer all of said things and property to the department of engineering.

SEC. 21. An act entitled "An act creating a commissioner of public works, defining his duties and powers, and fixing his compensation," approved February ninth, nineteen hundred, and all acts or parts of acts amendatory thereof, are hereby expressly repealed.

SEC. 22. An act entitled "An act to create a department of highways for the State of California, to define its duties and powers, to provide for the appointment of officers and employés thereof, and to provide for the compensation of said officers and employés, and for the additional expenses of said department, and to make an appropriation therefor for the remainder of the forty-eighth fiscal year," approved April 1st, eighteen hundred and ninety-seven, is hereby expressly repealed.

SEC. 23. An act entitled "An act providing for the appointment of an auditing board to the commissioner of public works, authorizing and directing him and them to perform certain duties relating to drainage, to purchase machinery, tools, dredges, and appliances therefor, to improve and rectify water channels, to erect works necessary and incident to said drainage, to condemn land and property for the purposes aforesaid, making certain acts a felony, and making an appropriation of money for the purposes of this act," approved March seventeenth, eighteen hundred and ninety-seven, and all acts or parts of acts amendatory thereof, are hereby expressly repealed.

SEC. 24. An act entitled "An act to provide for the appointment, duties, and compensation of a débris commissioner, and to make an appropriation to be expended under his direction in the discharge of his duties as such commissioner," approved March twenty-fourth, eighteen hundred and ninety-three, and all acts or parts of acts amendatory thereof, are hereby expressly repealed.

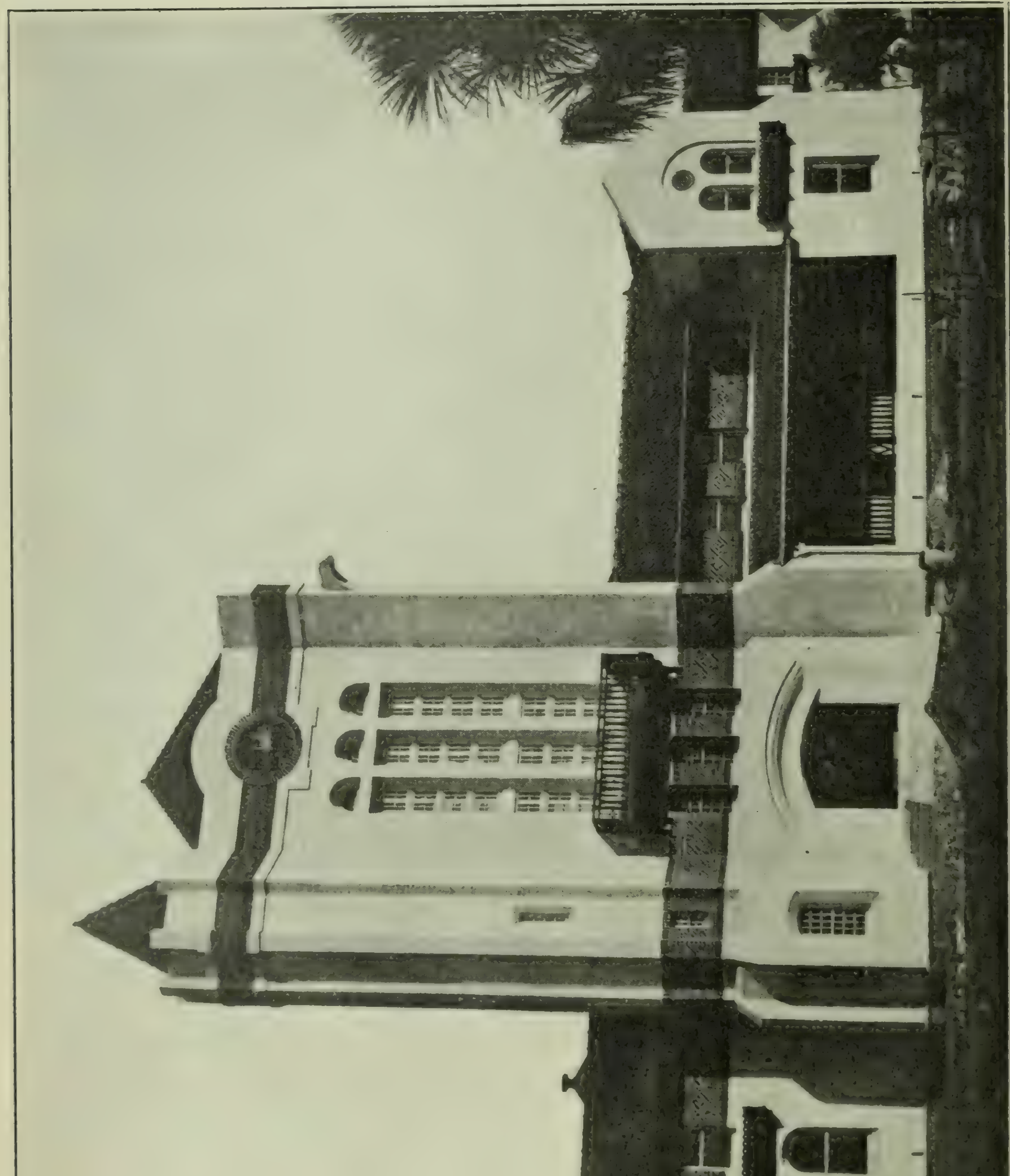
SEC. 25. An act entitled "An act to create the office of Lake Tahoe wagon road commissioner, providing the term of office and compensation of such commissioner, defining his duties, and making an appropriation for the salary and expenditures provided for and authorized by this act," approved April 1st, eighteen hundred and ninety-seven, and all acts or parts of acts amendatory thereof, are hereby expressly repealed.

SEC. 26. All acts or parts of acts in conflict with the provisions of this act are hereby repealed.

It is my purpose now to take up institution by institution, giving their status so far as building and some of the direct needs are concerned.

THE AGNEWS STATE HOSPITAL.

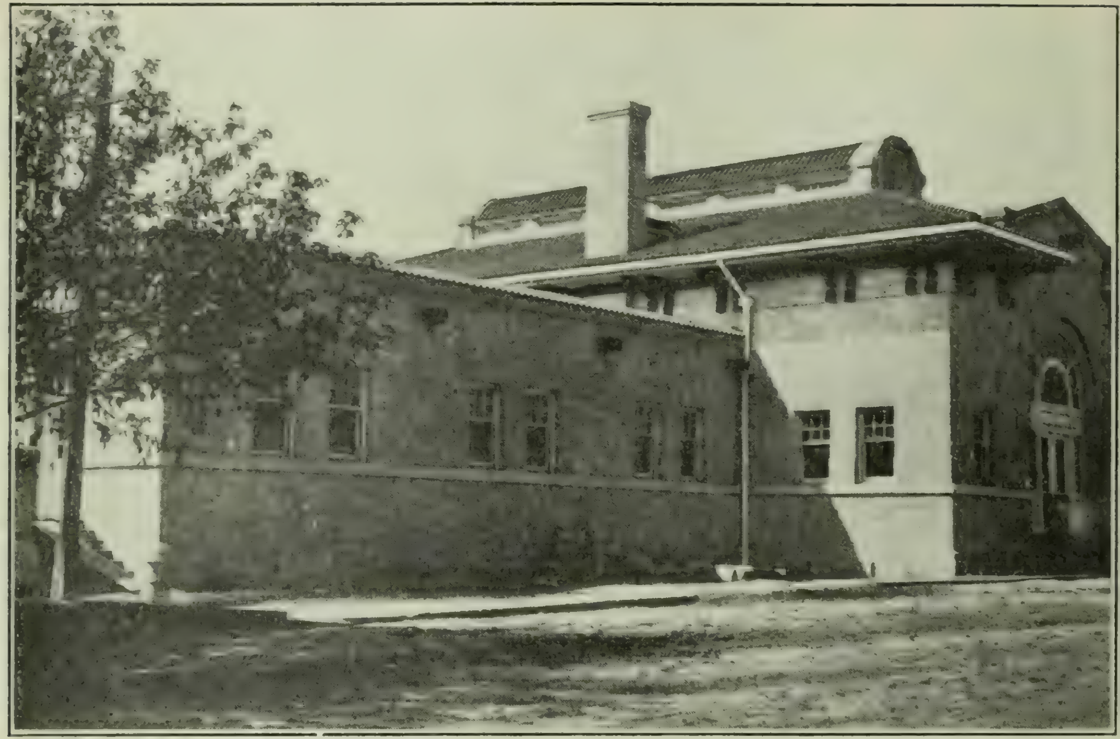
There was originally appropriated for the construction work at the Agnews State Hospital $800,000 in 1907, to be applied to hospital buildings. The only structures that were left remaining after the disaster of 1906, were the water tower and the mechanical plant. Under the appropriation as mentioned above, the Department of Engineering, in conjunction with the board of managers of the Agnews State Hospital, began the construction of the following buildings, on what is known as the cottage plan: The kitchen, the commissary, and the bakery buildings, all made of reinforced brick construction; the dining hall, the two receiving buildings, the two buildings for demented patients, the two buildings for violent and disturbed patients, the two buildings for infirm patients, the two buildings for quiet and medium patients, the superintendent's residence (a frame structure), the installation of three 150 horse-power boilers and appurtenances, two dynamos, two engines, and a sewer system. The buildings written of above are all of reinforced concrete and tile roof, with the exception of the superintendent's residence. Besides these structures, various items were accomplished under the $800,000 appropriation, such as the installation of an ice plant, a bake oven, kitchen fixtures, the iron staircase on the laundry building, a stack for the power house, the oil tanks for the power house, the machinery to conduct a portion of the work with; and a portion of the funds was expended in wrecking a number of the old brick structures. For a more detailed account of what was accomplished in the first two years of reconstruction of the Agnews State Hospital, see the table giving the costs of the structures and the financial statement. At the 1909 session of the legislature, the Department of Engineering was enabled, under an amendment to the law, to assume full control of the structures at the various institutions, and, therefore, the appropriation of $125,000, and a further appropriation of $215,000, to continue the construction work at Agnews, was placed under the department's charge. As soon as the money became available, we awarded the contract for the electric wiring to the Foulkes-Gaylord Company of Los Angeles, for $6,500.00. Piping from the power house to the various buildings was awarded to the Standard Electrical Construction Company of San Francisco, for $20,764.00. The conduit, which had been advertised twice for bids, was finally done by day's labor upon a semi-contract basis. A great many additions to the original plans were installed in the conduit, and, among other things, the outside of this structure has received a complete coat



of cement plaster, with the exception of the bottom, in order to make it water-tight. The problem of making water-tight the concrete, in adobe soil, at this institution is a difficult one, as in the winter time the subsurface water level means the surface water level. The adjustment of the conduit matter, although it is now completed, has not yet been made, as it is the purpose of the department to call upon the bondsmen of the contractor to make good the expense of certain defects found in the conduit. For estimates, costs, etc., on the above work, see the table of costs of the Agnews State Hospital. The department also had awarded the contract for the treatment building to the F. O. Engstrum Company of Los Angeles, for $87,876.00, and had awarded the contract for the administration building to Morrison Bros., of Santa Clara, for $40,900.00. At this date there still remains $23,427.53 in the Agnews State Hospital Fund. It should be clearly understood that the power plant, and all the appurtenances and connections, are sufficient and extensive enough to cover the construction of the whole contemplated scheme of this institution. All the buildings at this institution, with the exception of the building for demented females, the commissary, bakery, kitchen and dining hall, were built by contract. In the various contracts the finish plumbing, and the hardware, were excluded, and in the case of all structures constructed up to 1909, the board of managers had the purchasing of these materials.

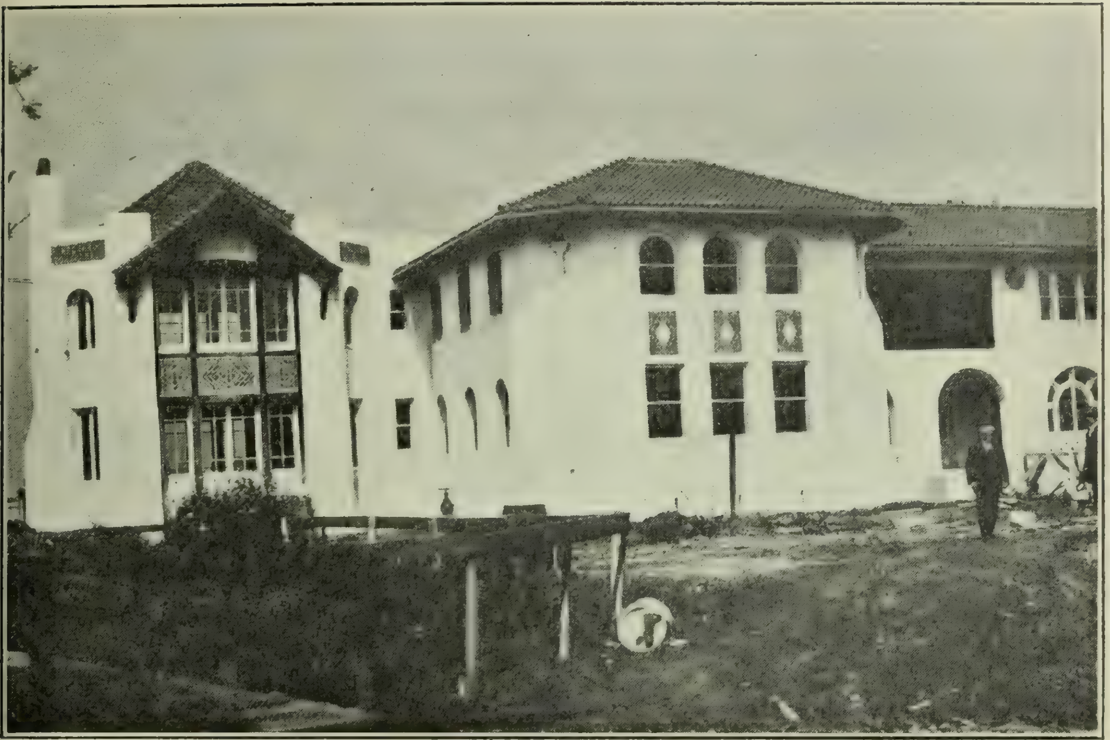
During January, 1909, the Governor of California received a complaint from the State Building Trades Council of California, concerning the structural work done by the F. O. Engstrum Company at this institution. This complaint asked that the matters set forth in eleven affidavits that accompanied it be investigated, and the truth in regard thereto be ascertained. At this juncture I was empowered to conduct an investigation into the work of the F. O. Engstrum Company, and ascertain the truth or falsity of the charges. With this view in mind, I went to the Agnews State Hospital, and from January 21, 1909, to the latter part of February, 1909, conducted an inquiry into the matters and charges set forth; and fully went into all facts in any way affecting the strength and stability of the structures that were charged as being bad, and closely examined them, that the State might receive full justice in the matter. I dug into the walls to find out if they were solid or porous, and I had a number of expert building witnesses that went over the one particular building in question, and investigated it thoroughly. In this connection I wish to quote some of the testimony of Professor C. B. Wing, of Stanford University, one of the best building authorities on the Pacific coast.

Professor Wing was asked the question whether or not the building was acceptablé, or would be acceptable to him, and he stated it would. The question was further propounded whether or not he thought the

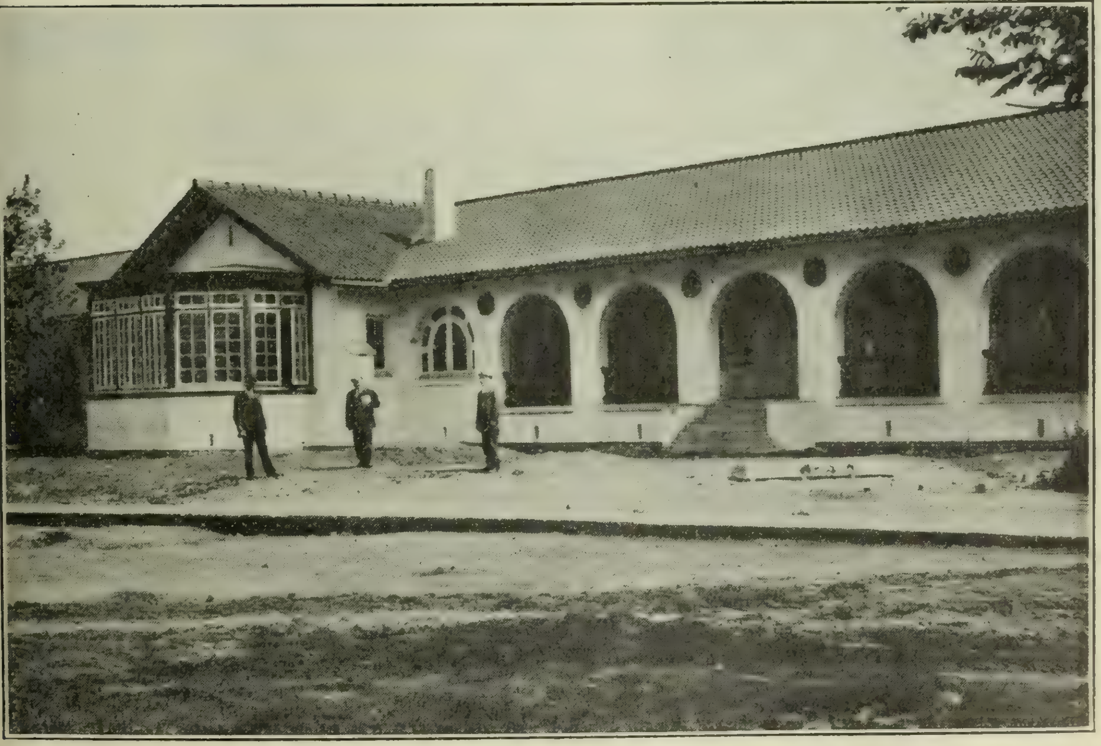


Kitchen Building, Agnews State Hospital.

Dining Hall, Agnews State Hospital.



Building for Infirm Patients, Agnews State Hospital.

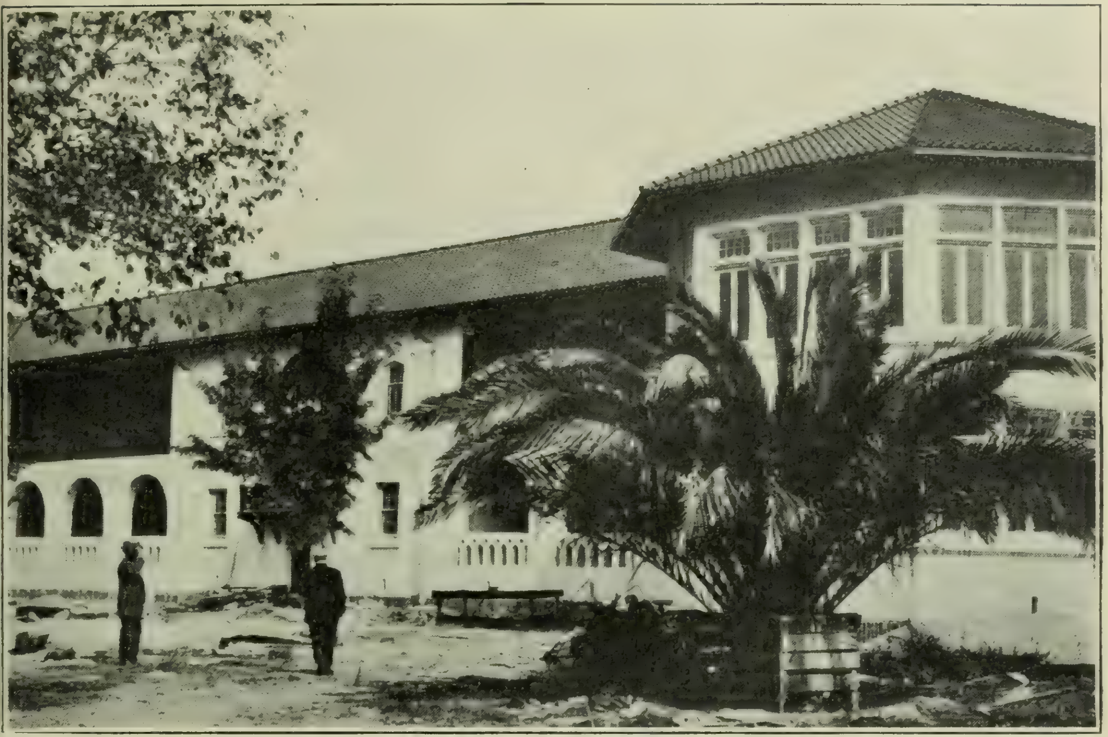


Building for Quiet Patients, Agnews State Hospital.

building, without any repairs, would stand a severe shock. He answered, "I think it would probably stand better than most structures of the same kind. In that I include brick and frame buildings. I think it would probably stand in its present condition better than anything except a class A building; that is, a class A building as given in the San Francisco building ordinances."

Another question was asked, whether or not the building would be perfectly safe without being repaired. He answered, "I can say that in my opinion this building would probably be no more damaged than the buildings at Stanford University, except in the difference due to a soft alluvial soil, and that would be upon a hard soil, but in by opinion the character of construction is much the same." Reference to the buildings at Stanford University made by the Professor is given in a previous answer: "I can state that the only buildings that came through the earthquake at the Stanford University absolutely undamaged, as far as the walls were concerned, were the concrete buildings with very little reinforcement in them." These answers to questions by Professor Wing were given after a five hours' rigid examination of receiving building number one.

After such testimony, and after being unable to find the defects mentioned in the affidavits and charges, it was deemed proper to test the building for strength, and a committee of the Buildings Trades Council, who remained at the Agnews State Hospital, stated they were satisfied, provided we tested the building over some of the concrete slabs and pillars which they might designate. This was done, and the full load, as per the specifications, was placed upon the structure, and in no case was there found to be a deflection in the beams or slabs, nor any fractures whatever. After these tests, it was finally concluded that the structure was first class, and acceptable to the State of California. By carefully looking over the work at the Agnews institution, it will be found that no finer class of buildings exist than those that have been constructed to replace the old institution. This Department has striven at all times to get full value from moneys expended, and in the case at Agnews we have allowed nothing to prevent us from getting the best value we could. A careful perusal of the table and statement of Agnews State Hospital, which follows, will clearly indicate what has been done at this institution.



Receiving Building, Agnews State Hospital.

Building for Violent Patients, Agnews State Hospital.

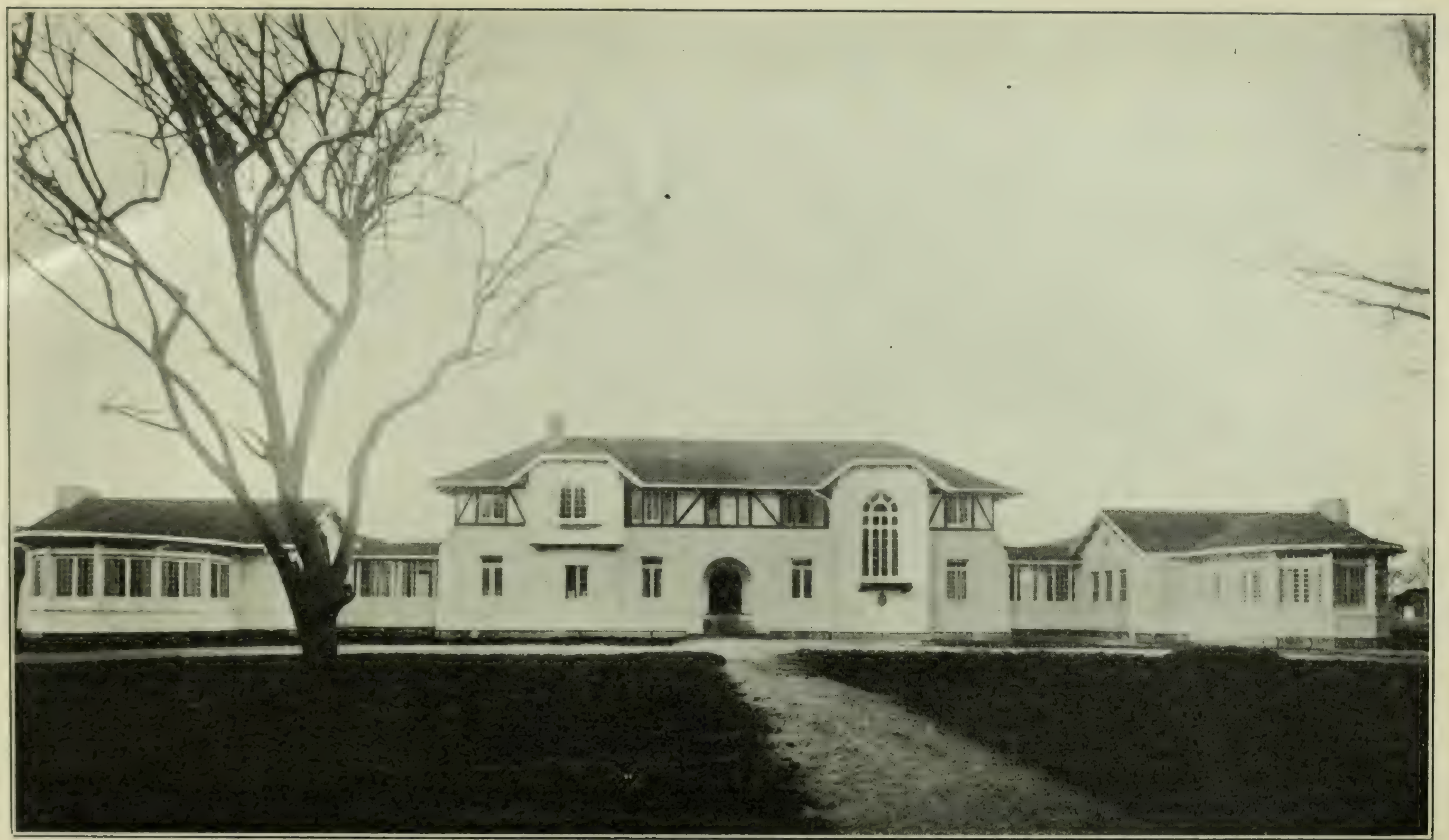
SOUTHERN CALIFORNIA STATE HOSPITAL.

There was appropriated $43,000 in 1907 for the receiving and treatment building for the Southern California State Hospital. After having the architect and a force of draftsmen go thoroughly over this matter with Dr. Williamson, who was then head of that institution, it was finally concluded that the demands he made for such a building could not be met by any $43,000.000. At the time of the undertaking of this structure, the hydrotherapy treatment of insane patients had scarcely begun in the state, and the various superintendents of the state hospitals were anxiously studying out plans to get a modern and convenient building for this work. Much time was spent in an endeavor to allow them to cut and slash the preliminary plans, that their ideas might be carried out. Finally, after we had gotten the doctor's ideas, it was positive that a structure could not be built to meet his demands. Rather than begin the construction, we waited until the 1909 session of the Legislature, and they gave an additional appropriation of $15,000 for this building, thus making $58,000 for the construction and furnishing of a receiving building. It was the desire of the Board of Managers of that institution to contract for this work, and consequently we called for bids, and awarded the contract to the lowest bidder, the F. O. Engstrum Company, for $45,197.00. At the solicitation of Dr. Blair, the superintendent who succeeded Dr. Williamson, there was allowed a change that cost $2,430.00. This, however, was partially offset by $620.00 due from the contractor for overtime. The Board of Managers have expended $5,183.63 in furnishing this structure.

As it was the wish of the Board of Managers of this institution that most of the work be done by contract, we succeeded in contracting for a frame cottage for female patients to J. C. Beer for $17,000. The Board of Managers used $1,697.50 worth of furnishings out of this $20,000 appropriation. The assistant physician's residence was contracted to Myzelle & Imhoff for $3,711.00, and the Board of Managers purchased $245.00 worth of furnishings, so that there still remains a balance under the $4,500.00 appropriation for this structure. The congregate dining hall, an old building of one story, on which they desired to build a second story with sleeping apartments for inmates, had an appropriation of $13,750.00, and as the authorities at the Southern California State Hospital were extremely anxious to get this extra accommodation for patients, a contract was let for $13,000.00 to the F. O. Engstrum Company, who were the lowest bidders. Prior to 1909, part of a scheme for draining the storm waters from the grounds of the Southern California State Hospital was constructed, and the Legislature appropriated $14,000.00 to continue and complete this work of drainage. It was therefore advertised, and finally a contract let to Messrs. Rife & Cave, of Redlands, upon the following unit figures: Concrete, $13.21 per cubic yard; earth excavated by hand, 42 cents; earth excavated by scraper, 19 cents, and pavement 12.8 cents per square foot. This work totaled $13,554.53, but as the contractor failed to complete the work satisfactorily, the drains have not been accepted, and money is still held back by the state awaiting final settlement on this work. In the drainage of lands similar to that of the grounds of the Southern California State Hospital, it is extremely difficult to get a plan or scheme that will completely eliminate the cutting or erosive effect of the water. We have endeavored to reduce the velocities so that the sand carrying water will not have the cutting effect, and at the same time permit of the ditches carrying the greatest flood flow. To make any sort of ditches practicable in this soil, it is necessary that the authorities in charge care for and maintain the ditches as they should be cared for and maintained that they may get proper results from them. The ground along the ditches should be carefully looked after during storms so that the overflow along the edges of the ditch may be proper, and no undermining take place. This is easily accomplished if properly handled, and should be given strict attention.

Another structure for the Southern California State Hospital was a reinforced concrete building for female patients. There was appropriated $40,000.00, and after due advertising, the contract was let to the lowest bidder, the F. O. Engstrum Company, for $36,446.00. The Board of Managers have bought $1,123.00 worth of furnishings. This structure is completed, and gives to this hospital a first class building.

In connection with the enlargement of the laundry, the job being of so small a nature, and the institution being so far from any town or city, it was thought best that this work be done by day's labor, as it is difficult to get a contractor to undertake such a small job at the distance it would be necessary for him to come. Therefore, this building was enlarged, repaired, and re-roofed, for the sum of $2,894.00. The Board of Managers purchased $906.00 worth of laundry machinery, leaving a balance of $1,200.00 in the fund. The work done at this institution in the past two years has, I think, been very satisfactory, and as reasonably constructed as any work in California. In tearing down the congregate dining hall it was found by the contractor that the underwalls upon which we were to build our second story were hollow. They had not been filled up with brick work, and it therefore became necessary to fill in these hollow spaces with concrete, for which we were compelled to allow the contractor to change some minor details of the work to compensate him for the unseen difficulty.



Receiving and Treatment Building, Stockton State Hospital.

STOCKTON STATE HOSPITAL.

This state hospital, in common with the other hospitals, was extremely anxious to obtain a receiving and treatment building, and after many consultations with the superintendent at that institution, it was decided to try to get a structure much larger than the appropriation would permit of, but upon the basis that patient labor would be used to largely assist in the construction of the work. In the year 1908 we constructed a barn for this hospital for about $2,400.00 by patient labor, which would have cost $5,000.00 to build at any other place with ordinary labor. We designed this receiving building after the ideas and notions of the superintendent of the institution, made an estimate of its cost, and then undertook to construct for the State a building that was estimated at $80,000.00 for $55,000.00, an appropriation made in 1907. In this connection we wish to call your attention to another article in this report, exclusively about the four receiving and treatment buildings at four of the state hospitals, so that you may know the exact status of the matters in connection therewith. At the 1909 session of the legislature, there were appropriated the following sums for the following purposes:

Laundry building and machinery, $12,000.00; tunnel to connect the power plant with the receiving building, $1,400.00; electric light plant and wiring of buildings, etc., $32,000.00; to build a convalescent cottage and furnish same, $35,000.00; to put in a telephone system, $3,000.00; to construct a water tower, and furnish all appurtenances therewith, $25,000.00. In connection with this work the laundry building has been finished for $8,550.95; the tunnel has been finished for $1,400.00; the telephone system has been finished for $2,560.00; the work is continuing on the convalescent cottage, the electric light plant and wiring, and the water tower and equipment. In a short time the hospital will have a steel water tank of 125,000 gallons capacity, with a piping outfit that connects up three wells with this tank. This will be completed within the money, as will also the convalescent building on the Stockton farm. This cottage now is being plastered both inside and out. In connection with the electric light plant and wiring, it was the desire of the superintendent of the hospital to get all the old buildings wired if we possibly could for the money, and we have had a force working there, carrying out very largely his suggestions in regard to this appropriation. All the work coming under this department at the Stockton State Hospital, has been done harmoniously, and with quickness and dispatch.

MENDOCINO STATE HOSPITAL.

In 1907, there was appropriated $30,000.00 for a receiving and treatment building. It was decided to try the matter of working patient labor upon this structure. A design was made after the ideas of the institutional head, an estimate was made, and the work started to build a $47,638.00 structure with patient labor for $30,000. At the session of the legislature, there was appropriated $12,500.00 more to apply to the receiving building and furnishing it. This building is completed, and has cost $42,472 to date. A full description of this structure is given in the article on the receiving buildings at the various institutions. Aside from this work there was appropriated $5,000.00 for a dairy barn, and $10,000.00 for a kitchen building and furnishings. This work was finished on May 21, 1910, and is now in use by the institution. The dairy barn cost $5,000.00. After we had designed this structure, and told the institutional people they could get it for the money, they desired to do additional work from their own funds, which was permitted. The kitchen structure cost $6,492.82, and the Board of Managers bought $3,434.06 of equipment for the same.

NAPA STATE HOSPITAL.

The Napa State Hospital now has one of the finest water systems of any institution in the State. There was expended thereon about $116,000.00 in the construction of a dam, subsidiary reservoirs, and a distributing system. The dam back in the hills from the institution will hold about one hundred and ten million gallons of water, and will supply this institution for many years to come. The last appropriation made in connection with the water system in 1909 was $25,000.00. We constructed a reservoir of the following dimensions and capacity:

Sixty feet by one hundred feet by twelve feet deep, and containing five hundred and forty thousand gallons. This structure has a division wall so that either half can be used at any time. It is built entirely of reinforced concrete and a pipe line from the creek, which is the outfall from the main reservoir, conducts the water to this distributing reservoir, from whence it is piped direct to the institution.

The distributing system from this reservoir gives the institution two separate pipe lines of water. This work is detailed in the table of costs. There was also appropriated for the Napa State Hospital $35,000.00 for the completion of the receiving building. Originally there was appropriated $35,000.00 in 1906 for the building, and after thoroughly going into the set of plans, and discussing them, it was decided to construct a building by patient labor, and build part of it on the first $35,000.00, and the remainder on a future appropriation. With this understanding the work was begun, and to-day stands with one wing and the central building completed, and the other wing only partially completed. The estimate on this structure, as filed in the Department of Engineering is $91,316.00. A further discussion of this building is left to the article on receiving buildings. There was also appropriated $12,000.00 for the construction and equipment of two additions to the male detached cottages; $40,000.00 to construct and furnish cottages for female patients; and also $8,000.00 to remodel and furnish the kitchen. The work of constructing the two male detached cottages was immediately begun, and carried out by Mr. Roper, the inspector, at a cost of $10,379.55. For four months the department tried to get the ideas of the officers of the asylum, so that we could begin the construction of the cottages for females under the $40,000.00 appropriation, but it seemed almost impossible to get this information until recently. We now have these cottages under contract to Mr. Duffy, of San Francisco. He is to construct fourteen cottages and a central pavilion for the sum of $28,402.00. This form of construction was adopted by the Board of Managers of the Napa State Hospital. In the work on the kitchen, our original estimate did not cover half of the items that were to be done on this building. We met the superintendent's desires so far as we could with the money we had in hand, and the institution has at the present time a first class kitchen. We give herewith an estimate of the changes, and the additions that were made:

Estimate Filed April 26, 1909.

Tearing out old work	$800 00
Concrete, 123 cubic yards	1,450 00
Floor tile, 2,800 square feet at 50 cents	1,400 00
Waterproofing	91 50
Cement wash	25 00
Plastering columns, 30 square yards at 70 cents	21 00
Structural steel in place, 25,150 pounds	1,006 00
Plumbing	400 00
Repairing roof	200 00
Incidental (inspection and plans)	200 00
	$5,593 50

Cost of Kitchen Repairs.

Tearing out old work	$396 87
Concrete and cement wash	1,438 74
Floor tile	1,237 95
Waterproofing	100 00
Plastering columns and sides (sides additional)	190 70
Structural steel	880 64
*Plumbing	1,420 77
Repairing roof	200 00
Inspection and plans	318 17
	$6,123 84

Work Additional to the Estimate.

Window guards and carpentry	$735 53
Elevator	443 80
Excavating	20 80
Painting	336 69
Railway track	137 67
Electric supplies	99 34
Sheet metal work	96 60
Heating and ventilating	145 74
Ornamental iron	134 20
Brick setting	24 00
Sheds and tools	74 45
Preliminary expense	69 68
	$2,318 50

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*This plumbing allowed time for setting up temporary kitchen before the department took charge.

SONOMA STATE HOME.

At the last session of the legislature, there were several appropriations for work at this institution. From appearances, Sonoma State Home is growing rapidly, and its needs are necessarily great. There was appropriated $15,000.00 for the cold storage plant and building, and for the kitchen repairs and utensils. We have constructed the cold storage plant building, have placed the kitchen in good repair and the board of managers bought utensils for the kitchen.

This cost is itemized as follows:

	Estimate.	Cost.
Kitchen equipment by board of managers		$2,208 00
Cold storage by department	$3,890 90	2,690 00
Building cold storage room	3,829 00	9,954 57
Repairs to kitchen—no estimate		

The hospital building, constructed some years ago on the side hill back of the main institutional building, was so located that it constantly worked its foundation in such a way as to rack the complete building. There was appropriated $7,500.00 to enlarge and protect this building. We have now placed immense concrete footings under the structure, and I believe it will now withstand the tendency to slip in the adobe soil. We have also constructed, at a cost of $2,672.00, an addition to the hospital. Under an appropriation of $15,000.00 for a power house and two boilers, we have constructed a building one story in height of brick, with a ground area of 5,000 square feet, and have placed a first-class stack in connection with this building. All these matters have been brought within the appropriation. There was also appropriated $5,000.00 to develop the water supply. After drilling for water near the old engine house, and being unsuccessful, it was requested by the board of managers of this institution that a dam be built to impound the waters in a certain ravine, known as the "vegetable garden," and from there pipe the water down to the institution. This was agreed to, providing they furnished enough money to make up the balance for the work. Upon this understanding, and at the solicitation of the board of managers, this work was carried out, and there is now a good, substantial earth dam, with a puddled clay core, that will impound approximately 32,625,000 gallons of water; $10,000.00 was appropriated for a gymnasium with equipment for boys. This structure was designed to meet the desires and wishes of the superintendent of the Sonoma State Home, and afterwards, at the solicitation of the president of the board of managers, a structure was completely designed to meet his desires and wishes. It was expected that this building would be constructed on the flat baseball ground. It was, however, located close to the roadway going to Cohn cottage from the main institution, and an extremely hard place, on account of the adobe soil, to reach a foundation. This structure had been estimated to cost over $10,000.00, and the surplus of excavation, and concrete foundation, brought the cost up to a point above the $10,000.00 mark. I herewith give a copy of the filed estimate of this structure for flat ground; also a total of the cost of the same, and the reasons therefor.

Estimated cost on flat ground was $11,390.00. Actual cost, located by the board of managers at present location, $12,105.11. The president of the board of managers was notified that to meet their demands not enough money was available. The foundation excavation and concrete cost the whole amount above $10,000.00.

It is also noticed that originally there was appropriated $75,000.00 for the administration building. This structure was begun in 1907, and in 1909, during the session of the legislature, was yet incomplete. However, at that time $7,500.00 was reappropriated from this appropriation, leaving $67,500.00 to build the administration building. This we did not figure upon. Our original estimate was $70,725.00. The cost of the structure was $74,976.98. It was during 1907 that we designed a manor house for this institution, with an estimated cost of $14,650.00. The board of managers of that institution were desirous of getting this house constructed, and had the man in charge of the day labor work for our department begin the work during 1907, when the power of buying and disbursing money was in the board of managers' hands. Money was obtained from two or three appropriations for this house, and finally, in 1909, there was appropriated $5,000.00 to complete repairs on the manor house. This building is a handsome structure, and has a homelike appearance under the large oaks on the grounds of the Sonoma State Home. Generally speaking, the class of work done by the department of engineering at the Sonoma State Home is far superior to the work that was done prior to the time we undertook the supervision of the construction there. It has also cost less for the same class and kind than work done before the advent of the Department of Engineering.

NORMAL SCHOOLS.

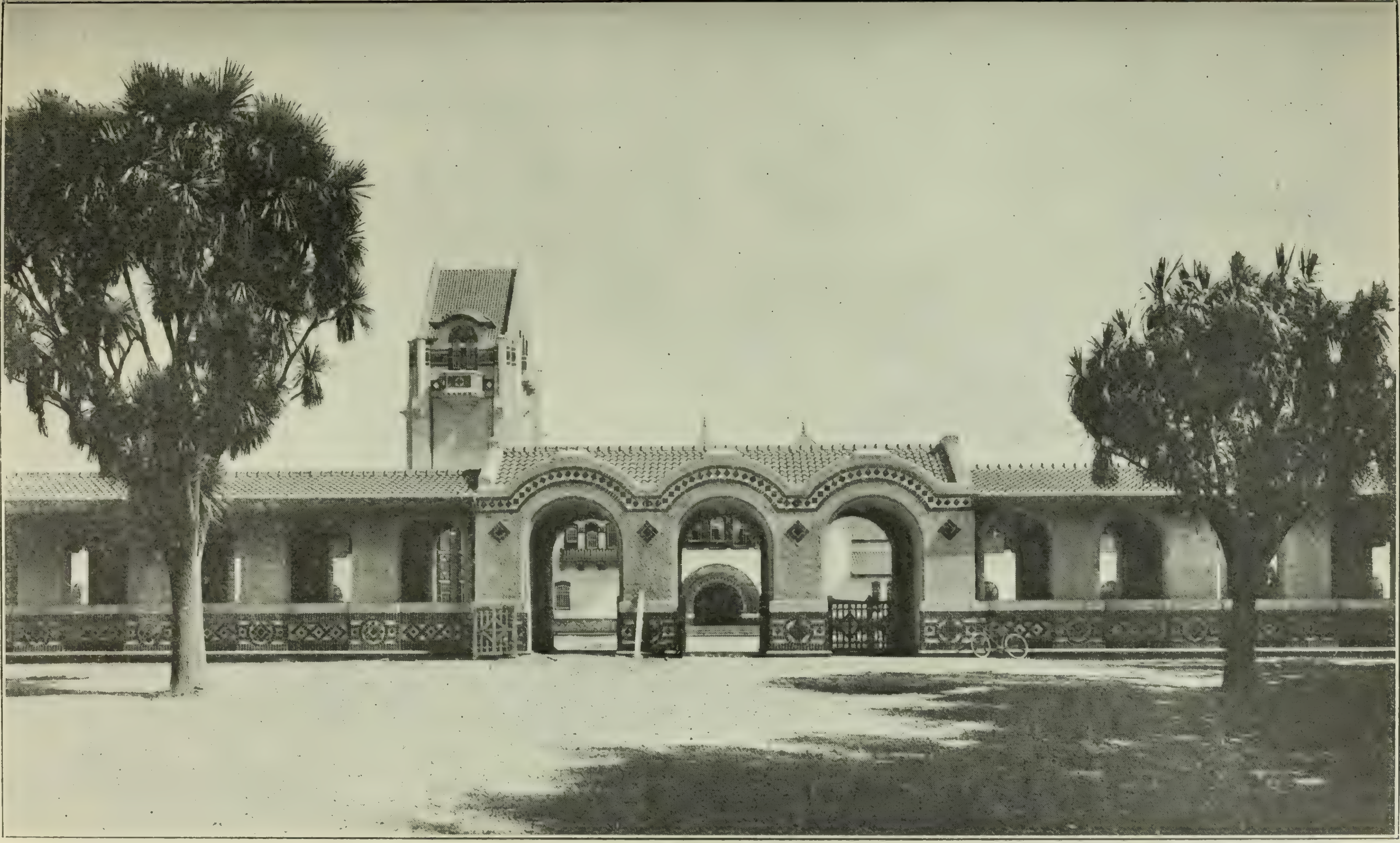
The work of the department at the various normal schools owned by the state has usually been most harmoniously and satisfactorily accomplished, both with the boards of trustees, and the heads of these institutions. In nearly all cases it has been a matter of coöperation, that the State might get the best results, and I believe in the case of most of the normal schools this can be shown to be positively a fact. I shall take up the work of these institutions, beginning with the San Diego Normal School.

SAN DIEGO NORMAL SCHOOL.

There was appropriated $40,000.00 in 1907 to construct a training school for the San Diego normal. Plans were devised and designed to meet the demands of Professor Black and his board, and thoroughly discussed, that we might meet their needs in connection with this building. Finally, it was decided, when it became known that the structure they desired could not be built for $40,000.00, that the matter go over until after the 1909 session of the Legislature, when they could ask for sufficient money to construct the building they desired. It was thought that $60,000.00 would be necessary to construct this building, but upon final legislative action, it was found that they had an additional $10,000.00 only to build this structure. Our estimate for the building was $54,374.00. We concluded to advertise for bids, and after receiving them, and finding the lowest bid was $57,000.00, we were compelled to reject them all, and, in connection, and at the solicitation of the board at this institution, we undertook the construction of the building by day's labor, and have successfully completed the same for the $50,000.00 appropriated. This includes drafting and all plans, while the contractor's price would include but actual building figures, no inspection expense, plans, or drafting. It is therefore safe to say that $10,000.00 was saved on this structure alone. There was also appropriated for this institution $5,000.00 for repairs and maintaining the grounds, and building some sidewalks; 9,366 square feet of sidewalks were built at 11 cents per square foot, and the board of trustees have planted some palms, and done other minor matters which were paid from this fund. The central heating plant in the main building of the San Diego normal was in extremely bad shape, and I believe a deficiency was allowed to permit the board of trustees to place some extra sections on the boiler, that they might transfer steam to the new training school building. It is my opinion that the San Diego normal building should have an entirely new central heating plant, and this coming Legislature should appropriate money for the same. The relations between the department and this institution have been most harmonious, and have thus effectively saved the State of California in its work.

SAN JOSE NORMAL SCHOOL.

After the old structure at this institution was torn down and destroyed, there stood an appropriation of $250,000.00 to reconstruct the San Jose Normal School buildings. The Architectural Department had gone over plans with the Board of Trustees and the principal of the normal school, in an endeavor to get their desires and wishes completely incorporated in the building. Finally, they adopted the quadrangular scheme of building, and were very anxious to carry out this



Entrance, San Jose Normal School Building.

idea. With their demands for space it could not possibly be done for the money and be built of substantial material. Advertisements for bids were inserted in the papers, and upon the receipt of bids in excess of the money, it was finally decided to wait and ascertain what the Legislature would do towards assisting in getting what they wanted. At first the Board of Trustees thought that they would be compelled to construct a wooden building, but finally the Governor and the Legislature agreed to allow an additional $75,000.00 for this building. We thereupon advertised again for the completion of the quadrangular building, with the exception of the auditorium, but the inclusion of the power plant, and as the bids came within the money, the contract for the main building was awarded to the F. O. Engstrum Company, for $272,797.00, and the power house was awarded to the Rickon-Ehrhart Engineering and Construction Company of San Francisco, for the sum of $25,676.00. These buildings have been occupied since the beginning of this semester at the normal school, and the main building was completed nearly under the specified time of eight months. At another place in this report are given two views of this institution, which is recognized now the world over for its architectural beauty. There is also given a detailed cost sheet account of this structure, showing the methods employed, which typifies the work of the Department. It is recommended to the Legislature that an appropriation of at least $55,000.00 be made to construct the auditorium building and thus complete the San Jose Normal School. There was also appropriated $1,725.00 to construct curbing and gutters around the grounds of the San Jose normal. This was contracted to Mr. D. Ferrant at $1,449.66, or fifty cents per lineal foot of curb and gutter, and 11½ cents per square foot of sidewalk.

SAN FRANCISCO NORMAL SCHOOL.

Just prior to the Department of Engineering taking charge of construction work at the various institutions in California, this institution constructed a wooden building, at a cost of $80,000.00. The only appropriation that was made in 1909 was for repairs; that is, painting some of the buildings, and building sidewalks around this institution. The sidewalks were contracted for with Mr. George W. Boxton, of San Francisco, for 11½ cents per square foot. To date, they have not been accepted on account of some defects that have occurred in them. The painting was finally let out to Mr. Cahill, of Oakland, for $1,843.46. This constituted the only work done by the Department at this institution.

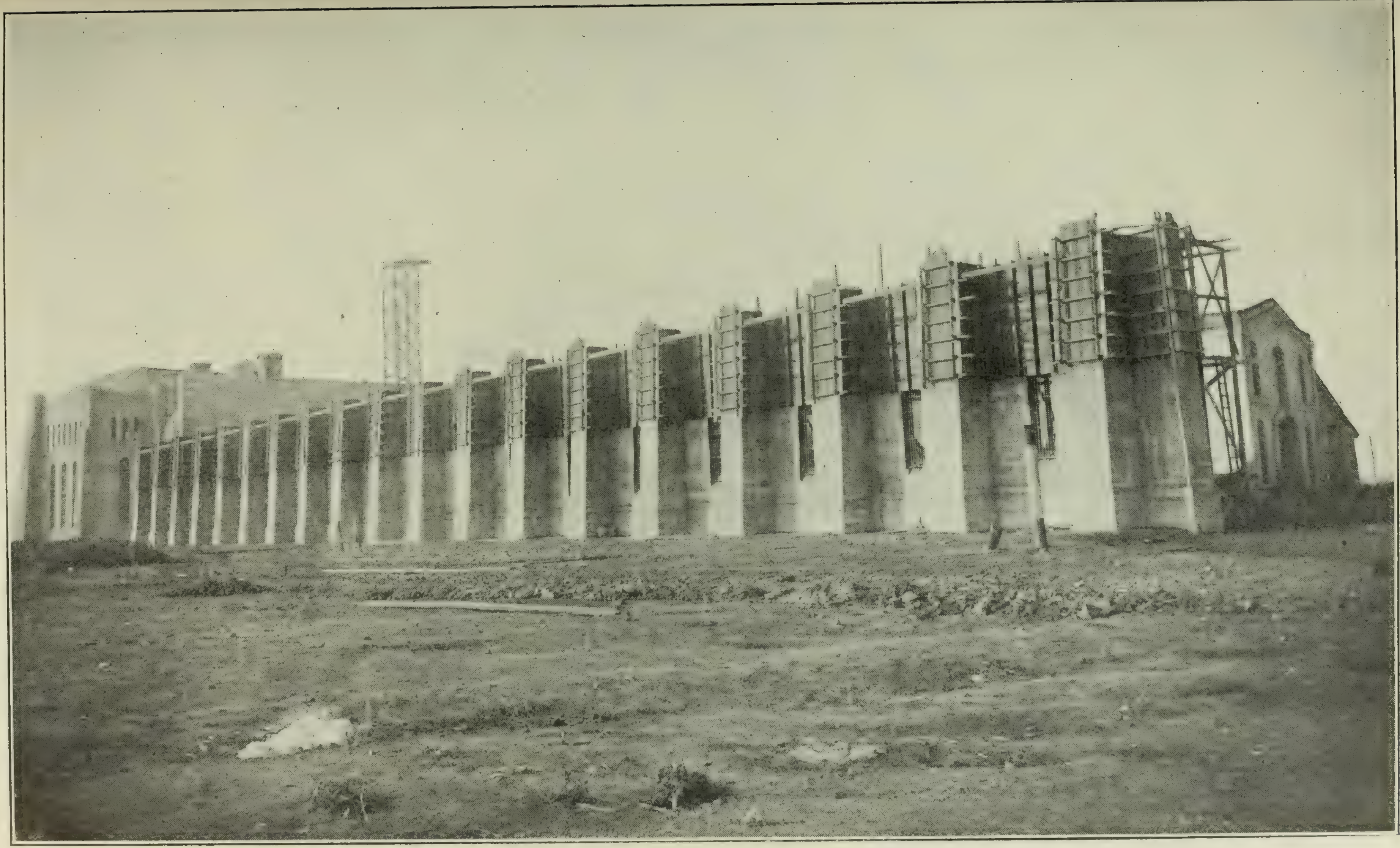
CHICO NORMAL SCHOOL.

The $30,000.00 appropriated to build the training school at the Chico Normal School was only sufficient to build a frame structure. After discussing with Professor Van Liew the needs of the institution, and getting the approval of the sketches of his ideas, it was decided to contract for the building. After two or three attempts to get a contractor to bid within our estimate, we finally secured Mr. W. L. Graff, of San Francisco, who contracted for the building for $27,768.00, our estimate being $29,079.00. After the completion of this structure, it was found necessary to install more boiler power for heating purposes in the old building. We have, therefore, expended $680.00 in an endeavor to tide over this institution this winter. There should be expended something like $2,000.00 upon this heating plant to put it in first class condition, and it is recommended to the Legislature that they appropriate enough money for this purpose.

PRISON WORK.

SAN QUENTIN PRISON.

Between three and four years ago, when the Department of Engineering was organized, the prison board was, through its engineer, Mr. Eckart, cutting down what is known as "South Hill," in order to have a level space upon which they might construct the new prison. They had equipment to haul this material, and they had free labor to assist in getting it out of the way. When the Department undertook this work, it found a set of plans partially completed for the new prison, which was to be built of cut stone. These plans were not considered suitable, and were therefore rejected, and new plans ordered made. Mr. Eckart, the engineer whom the board employed, had been to Fort Leavenworth and seen the government prison, and had discussed at various times the prison's needs. We talked the matter over with the warden of the prison, and have an approved sketch by the Prison Directors, for the scheme as laid out. I wish to state here that if we had carried out the original plan, which was rejected by the Department of Engineering, instead of having a building of reinforced concrete practically completed as it stands to-day, you could not have gotten the cut stone from Folsom, the expense would have been fivefold for building the prison, and the time taken to construct the same would have been three times as great as it has taken under the present plans. We have but to look at the criminal insane building at Folsom, to determine the truth of this assertion, and yet at that institution they are doing as much as can be done with the help they have to carve the stone. The layout for the prison at San Quentin is one of the greatest in this country. The main cell building, containing 800 single cells, is practically completed, and eventually there will be constructed two wing cell buildings, one of 352 single cell capacity, and the other of 448 cell capacity, which will partially form an enclosure or yard for the prisoners. Outside of the 800



New Prison, San Quentin, December, 1910.

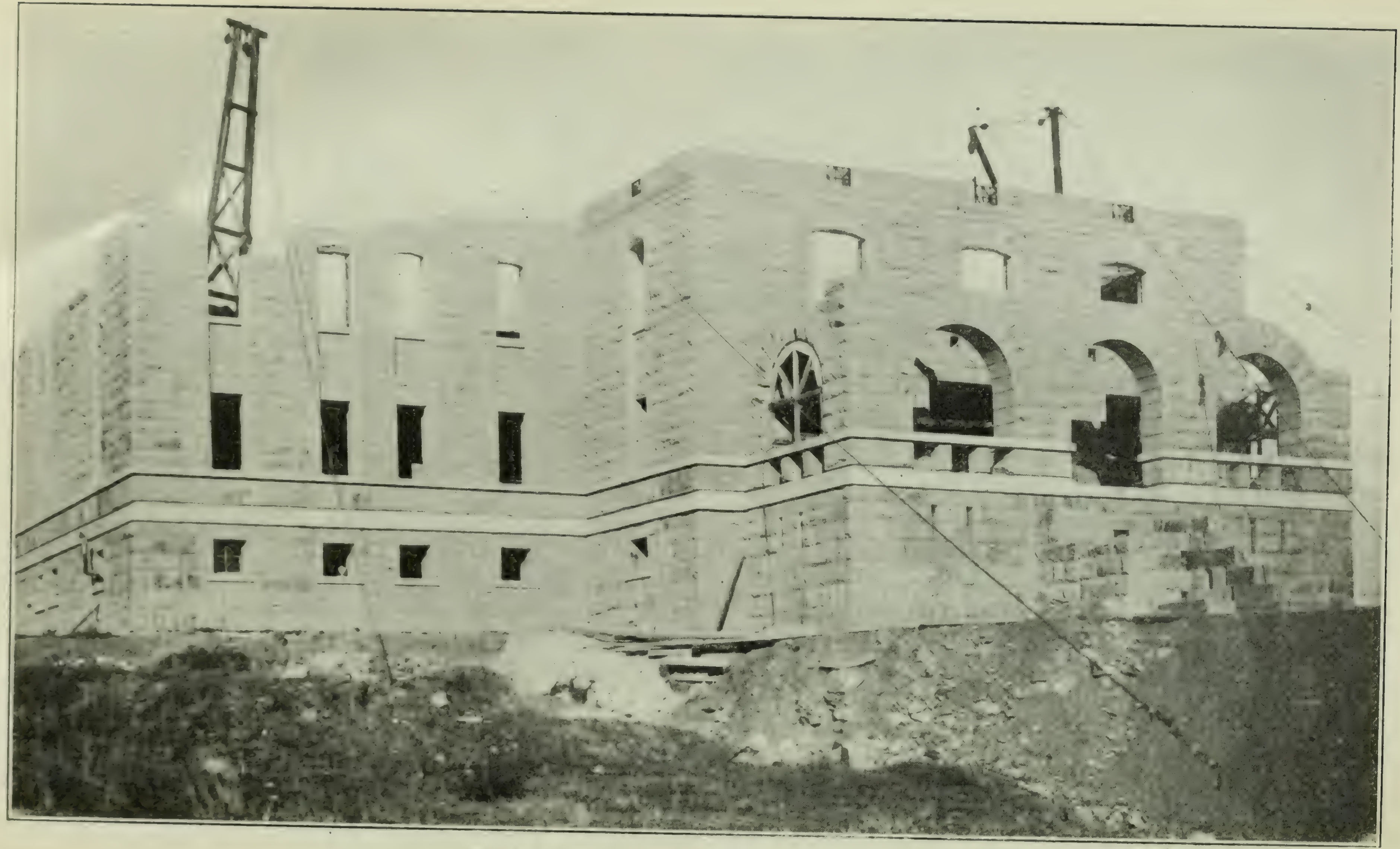
single cell building will be a chapel of reinforced concrete, and inside, opposite the chapel, will be a dining hall and kitchen, with a seating capacity sufficient to seat all the prisoners facing one way, at one time. Aside from these structures, there are contemplated several other buildings, such as administration building, hospital, captain's office, punishment cells, possibly a women's department, and other minor features. In all, when completed, this will be one of the greatest concrete structures in the United States, and be one of the most complete prisons of this country. On a separate page is given a view of this new prison work as it stands to-day. We have endeavored to get this work as far ahead as possible with the funds at our command. We were delayed for awhile for crushed rock, and when a combination was before us meaning certain delay in this matter, we undertook to open a quarry of our own, and supply rock, that we might progress with the building. I herewith give you a resumé of the quarry business as it was taken over by us. We leased Sheep Island Quarry, in San Francisco Bay, for a period of one year, at a rental of $833.33 a month, we to have the use of everything in connection with the plant and quarry, and to take out 60,000 yards of rock if we wished. We have worked to date about eight months, and have taken out 16,013½ tons of rock, at a cost of $1.30 per ton. By this method we permitted the work to go on uninterruptedly, but on account of the funds being practically used up, we could not get a further amount of rock. There was originally appropriated $310,000.00 to do the work of construction at the San Quentin Prison, and we are building a class of structures which, if built by free labor, would cost millions of dollars, and as there is great need for the continuation of this work, it is recommended that $300,000.00 be immediately appropriated, to continue the work of construction at San Quentin Prison with the least delay possible. There was also appropriated at the last session of the Legislature, $5,000.00 for repairs to the San Quentin Prison, and $20,000.00 for the construction of cottages for guards. We have designed, and constructed already, two cottages for guards or officers at the prison, and have permitted the warden to select his repairs. Whenever any other cottages are needed at San Quentin Prison, this office can promptly furnish all information necessary for the construction.

FOLSOM PRISON

At Folsom prison, the work of constructing a wall around the prison proper has progressed extremely well, and at this date we have 1,639 lineal feet of wall, constructed of cut ashlar granite, and twenty-two feet high. We have also constructed at the exit a fine monumental gateway, which would have cost about $55,000.00 to build by contract. The appropriation of $168,000.00 for additional cells and walls at this prison, has been applied to getting out the foundation for the new cell building, and the construction of the wall. The principal effort, however, has been toward the wall. At this date the foundation, cut in solid granite, is nearly completed for the cell building. There is a balance of $86,982.25 in this appropriation, and I believe this sum will allow the work to properly progress and continue. There was also appropriated at the last session, $1,500.00 for repairs, $3,500.00 for additional houses for employees, $12,000.00 to build and furnish the warden's residence, and $2,500.00 for a boiler for the kitchen. The repairs have gone on under the warden's charge, and there have been constructed three additional houses for the $3,500.00, leaving a balance of $1,347.75 in this fund. These are common frame houses. In connection with the warden's residence we have had several sketches made, but there is a dispositon on the part of the board of prison directors to have a certain size house, and certain conveniences, and it can not be constructed for the $12,000.00. The matter has therefore been held in abeyance for this reason. In connection with the boiler, we are now installing a 75-horsepower Kewanee boiler. It was suggested at first that two boilers be bought for the money, and be set up, but this could not be done, and finally one boiler was bought, and will be placed, leaving a balance of $1,300.00 in the fund. It will yet be necessary to get piping, etc., for this boiler.

CRIMINAL INSANE BUILDING.

This structure, which is located on the grounds of the Folson prison, near the site of the dam, was originally designed by Reid Brothers, of San Francisco, to be constructed entirely of cut stone. We have largely changed the plans of Reid Brothers, and recently I made the change of all partition walls on the second floor from cut stone to reinforced concrete, and thereby saved about a year in the time of construction of this building. There are working in the quarry, cutting stone for this structure,. 115 prisoners, and there are 35 prisoners working on the building. At the rate they cut stone, and this appears to be all the men that we can get for this purpose, it will take 173 days to complete this structure. There is yet to be supplied 10,750 cubic feet of stone to complete this work. I herewith present a photograph of the same, showing its present condition. At the last legislature there was appropriated $39,000.00 to complete this structure, which covers 15,656 square feet of ground measurement. It will be seen by careful calculating from this structure, what can be expected from prison labor for this class of work, and it can be futher seen how much more rapidly this reinforced concrete work can be done



Criminal Insane Hospital, Folsom, November, 1910.

than the cut stone work. It was this reason that led to the change in the plans of the San Quentin prison. However, it will be noticed that the stone work on this structure is now nearing completion, when the remainder of the work can be rapidly completed.

PRESTON SCHOOL OF INDUSTRY.

At this institution we have the most remarkable exhibition of cheap construction in the State of California. Under the guidance of the superintendent of this institution, we have constructed a brick refectory building, a photograph of which is given in this report, that is estimated by our Department to cost $57,000.00. There was an appropriation of $20,000.00 to do this work, and it will be just about completed for this money. The boys of this institution have done all the labor, have made all the mill work, have burned the bricks, and have practically done everything except furnish the raw material that has gone into the structure. It is an extremely interesting matter to note that the class of work done by these boys is the first grade, and superior to a great deal of the outside construction. This method of proceeding with the work at Preston makes a great saving to the State of California. There was appropriated $25,000.00 for the power plant and piping. The design for this plant has been made, and all details for piping arangements are out. The boys will undoubtedly do this work upon practically the same basis they have worked on the refectory building. There was also appropriated $20,000.00, to construct and furnish two cottages for this institution, and we are now working on the plans for these cottages. In all instances at this institution we are kept far enough in advance of the boys' labors to meet all demands. The harmony existing between this institution and the Department, has been a great factor in bringing about the saving and good construction that Preston is now receiving. The work of the boys, at the present time, is so far above the contract work done on some of the older buildings at this institution, that they are incomparable.

WHITTIER REFORM SCHOOL.

Upon examination of the buildings at this institution, it was found that most of them were very poorly constructed of brick. There seems to have been a general disposition on the part of the State to construct large, rambling, brick buildings for its various institutions. In a great many instances these structures are very poorly put together. The Whittier buildings are no exception to this plan.

In 1909, there was appropriated $5,000.00 for a manual trainng building, $2,500.00 for a 125-horsepower boiler, $10,000.00 for a cottage, and $3,500.00 for repairs to the main building. In the case of

the reform schools, we usually make the instructor of carpentry at the institution the inspector for the Department of Engineering, and this is the case at Whittier. We have designed the $10,000.00 cottage, and it is now being constructed under the supervision of Mr. Decker, of the school. The boys are doing a considerable portion of this work. As yet, nothing has been done with the manual training building, but the repairs to the main building have gone forward until that fund of $3,500.00 is practically exhausted. There was also installed a 125-horsepower boiler from the Baker Iron Works, of Los Angeles, which cost the institution, set up, $2,488.00. This and all of the expenditures in connection with this work, will be found in the tables which follow.

VETERANS' HOME.

This institution is located at Yountville, eight or nine miles above the city of Napa. This location is almost ideal, but the structures composing the institution are of the poorest type of wooden affairs, and will mean to the State of California, if this instituion is continued, a never-ending source of expense for repairs. The last legislature appropriated $30,000.00 for repairs, and we have been, under this appropriation, patching up these buildings in the best way possible. In the table giving the expenditures of this institution, will be found the expenses for repairs. There was originally appropriated, $5,000.00 for a commissary building, but in 1909 another $5,000.00 was added to this, that the institution might build the structure of sufficient size to meet their needs. We, therefore, constructed a frame building of lath and plaster for $9,586.81. There was also an appropriation to add to the hospital. This was for $5,000.00, to meet the needs of the institution. All these funds have been expended. In connection with the completion of the septic tank of the sewage disposal plant, there was $5,000.00 appropriated. Of this, $3,782.86 has been expended in the completion of this work, and the institution has now one of the best septic plants in California. Like a great many of the other properties of the State, in the selecting of a site, little attention was paid to the subject of water. The Veterans' Home is no exception to this rule, and it is necessary to expend a considerable amount to give the institution enough water for its domestic purposes, and the irrigation of its lawns and gardens. It now needs another reservoir, and I would recommend to the state legislature that they appropriate money enough to construct a reservoir sufficient to meet the needs of this home.

CALIFORNIA POLYTECHNIC SCHOOL.

The growth of California institutions is certain to make demands upon the State for a great deal of construction. Where California continues to construct frame buildings she will find it a very expensive investment. The question of maintenance and repairs, if many of these structures are to be cared for, mounts up into thousands of dollars per annum. The California Polytechnic School has been constructed largely of wood, and as it is constantly growing, and its necessities become greater, additional buildings are necessary to accommodate the school. If these wooden constructions are continued, I predict that it will be a very heavy drain on the State to maintain such an institution. I believe the schools, where they are of a permanent nature, should be supplied with permanent buildings, and I believe that hereafter structures on the grounds of this institution should be permanent in their nature. There was appropriated at the last session of the legislature, several items for work at this institution. A dining hall was needed, and the $10,000.00 appropriated to build and furnish such a structure, for an instituion of this size, was totally inadequate for the purpose. We put them up a building for $9,067.34 which has met their needs, but which is not in first class shape. This work was done by day's labor, as was the cottage, which cost $2,300.00, and the sewer system. This sewer plant, including the septic tank, cost the State $5,795.12. There was an appropriation of $5,000.00 for an addition to the barn, and $10,000.00 for a power plant, and these were contracted for to J. J. Maino & Sons. The contract on the barn was $1,771.00, and the contract on the power plant was $6,237.00. The poultry sheds were constructed by the institution, and Professor Waters, of the institution, handled the development of the water plant for us. This plant includes a series of wells in the low ground, and from there the water is pumped to a knoll or hill near the creamery, from which point it is distributed. There has been expended to date $5,609.32 in the construction of this plant, and it is not yet quite completed.

BERKELEY HOME FOR THE DEAF, DUMB AND BLIND.

There has been a sort of general appropriation of $13,144.00 made for repairs to the plumbing, electric lights, renewals to the water system, laying water pipes and establishing hydrants, buying mechanical fire extinguishers, and doing extra sidewalk work. This amount has been segregated, tentatively, by the board of managers, into the following proportions:

Repairs to plumbing, $3,000.00; electric lights, $350.00; renewals to the water system, $1,500.00; laying pipes and hydrants, $2,420.00; mechanical fire extinguishers, $900.00; street work and sidewalks, $4,974.00. In regard to the plumbing work, I employed Mr. Kinkade, a practical plumber, to be the inspector, and to carry out the work of fixing the plumbing at this institution. Usually this old work was found to be extremely bad, and it was difficult to say where to begin and where to leave off. However, at the suggestion of the superintendent, we put as much money as we could in the renewal of the plumbing fixtures, and therefore expended $5,088.27 on this work. The cost of improvement of water supply was $453.82. In regard to laying the water pipes, and establishing the hydrants, we entered into a contract with Mr. L. W. Murdock, for the sum of $1,608.00. The street work and sidewalks on Derby street we contracted as follows: The streets were paved with macadam, and later the city of Berkeley oiled the same. The sidewalks were constructed of concrete of five feet in width, and the curbing on this street was also concrete of forty inches in width. This work was done at $3.20 per lineal foot, and amounted to $3,296.00 for this section. The other street necessary to pave was Dwight Way. The contract was let to Mr. F. E. Nelson for this work, at 7½ cents per square foot for macadam for the street, and 11 cents per square foot for the concrete sidewalk. Grading to be done for $175.00, and curbing to be rock cobbles and redwood to correspond with the remainder of the street, 12 cents per lineal foot. This total contract amounts to $1,035.11. The board of managers of this institution requested permission to buy the mechanical fire extinguishers and electric lights, and $800.00 was allotted them to carry out this part of the general appropriation. The remainder of the work was done by the Department, and shows that the different classifications under the general head were kept within the money allotted to each subject.

Before leaving the description of this institutional work, I want to call express attention to the fact that the Berkeley Home for Deaf, Dumb and Blind is housed in wooden buildings, and it seems to me that the State should adequately provide for structures that are fireproof, especially for the housing of the blind. I believe that any structures to be built upon these grounds in the future, should be made of fireproof construction. But recently, one of the buildings was burned to the ground, and from accounts, had it contained students at the time of the fire, there might have been horrible results. It is certain that the State should provide other than wooden buildings for these unfortunate children.

THE INDUSTRIAL HOME FOR ADULT BLIND, OAKLAND.

There was appropriated, in 1907, $50,000.00 to construct a dormitory building at this institution, at Thirty-sixth street and Telegraph avenue, Oakland. We designed a reinforced concrete structure of two stories, and completed the structure within the appropriation, by contract. The headquarters of the officers of the institution is now located in this structure, and while visiting this institution recently, and going through the old wooden building to the rear of the grounds, where the officers were quartered prior to this new construction, I found it to be a three-story wooden affair, in extremely bad shape, and a certain fire trap if ever fire should start in it. The proposition of housing the unfortunate blind in a three-story wooden structure of this class is, I think, entirely wrong. There is no doubt but what this building should be torn down, and it should be replaced with a modern fireproof building. The question of repairing this old wooden structure came to my attention, but I believe that such should not be done. Even though it be all right to house these people in such a building—to which I do not agree—yet the State would not gain anything by patching up a structure of this nature. The Oakland Blind Home, like the Berkeley Home for the Deaf, Dumb and Blind, has a sort of blanket appropriation, in the sum of $12,155.00, to cover various improvements. It was divided as follows by the board of managers, arbitrarily, in these proportions:

New fence for the institution, $1,600.00; sidewalk on Thirty-sixth street, $890.00; paving the driveways on the grounds, $2,665.00; building water tank, $1,200.00; seeding and grading the lawns, $1,000.00; building fire escape to one of the wooden buildings, $500.00; laying water pipes through the grounds, $1,200.00, and getting furniture for the new dormitory building, $3,500.00. Outside of the question of buying the furniture, which was left to the board of managers, we carried out their work under Mr. I. J. Ball, the inspector, at the following costs:

Iron fence around the grounds, $1,560.00; paving the driveways on the grounds, $2,492.48; erecting the water tank, and drilling wells, $1,603.97; building fire escapes, $275.00; building sidewalks on Thirty-sixth street, $717.08. It was found that the old sidewalk on Telegraph avenue was entirely gone to pieces, so we got the sidewalk constructed on Telegraph avenue and Thirty-sixth street at practically the same price that the estimate of the board of managers had allotted for this work on Thirty-sixth street. In summing up the segregated allotments in the general appropriation, it was found $400.00 short, so some of the work had necessarily to be curtailed. The laying and installing of water pipes cost $323.66, and $255.55 was spent on grading. It was necessary to build a retaining wall, to place the fence upon near the new dormitory building. This cost $550.86. The remainder of the fund was given the board of managers to purchase a pump and motor.

STATE FAIR GROUNDS.

In 1907, there was appropriated $50,000.00, to build the agricultural and manufacturing pavilions, at the fair grounds, which is near Oak Park, Sacramento County. We drew plans for these structures, after consulting with the board of directors and Mr. Filcher, the secretary, and finally decided to obtain bids on them during December, 1908. The lowest bid received was for $50,900.00 for the agricultural pavilion, and $29,057.00 for the manufacturing pavilion. The size of these structures were found to be inadequate to meet the desires and demands of the state fair people. After all bids had been rejected, and the Legislature of 1909 had appropriated $20,000.00 more for these two buildings, at the solicitation of the board of directors we undertook this construction by day's labor. Consequently, we placed Mr. B. Thomas in charge of the work, with instructions to have the same ready for occupancy in August of 1909, so that the fair people might have the use of them at that time. Our estimates for these buildings were: Agricultural pavilion, $42,531.20; manufacturing pavilion, $25,470.00. The cost of these buildings, as they stand at the present time, with the following list of extras demanded by the board of directors of the agricultural society, for the agricultural buildings, is as follows:

The amount expended by the board of directors in wrecking the old buildings, etc., $7,491.16. The board of directors returned to the fund for the sale of lumber, etc., $2,128.86. Therefore, the difference, $5,362.30, must be deducted from the original appropriation of $70,000, when it will be seen that we undertook to construct $68,000.00 worth of buildings for $64,637.70. These buildings, when the manufacturers' hall is plastered on the outside, will cost $68,049.00, thus saving over the lowest contract bid about $12,000.00; or, if the drafting and inspection are taken into account, we will save about $15,000.00. The only work to be done to the manufacturing pavilion is to plaster the outside, which will cost about $2,500.00. The contract for the truss rods and iron bolts, etc., for these two buildings was given to the Palm Iron Works, of Sacramento, for $6,290.00, they agreeing to carry out the terms of the plans and specifications. The delay caused by them in the delivery of this iron caused at least a loss of $2,000.00. We were even compelled to go to San Francisco, and have work done on his contract, that we might get far enough progressed with the work on the buildings to allow the fair to go on. I, therefore, have held up Mr. Palm to the extent of $2,000.00 for accrued damages. There was also appropriated, in 1909, $30,000.00 for a machinery hall, $10,000.00 for water tank, pipes and pump, and $10,000.00 for improvement of the grounds. We have constructed machinery hall by day's labor, at a cost of $28,633.34. We have installed a piping layout on the grounds, built a reinforced concrete tank house one hundred feet high, placed a motor-driven pump therein, for the sum of $9,999.87. With the appropriation for improving the grounds, we contracted for $1,000.00 to level the infield of the track, bought a span of horses, a water wagon, and carried on various other matters that needed attention. By looking at the list of expenditures in the table that follows, a clear idea may be had of this work. Even with the new buildings that this institution now has, there should be erected a grand stand that would be in keeping with the buildings that have been constructed. The present grand stand is totally inadequate, and is constructed in such a manner that the lumber is just practically thrown together, with a large waste that should have been avoided.

LOS ANGELES AGRICULTURAL GROUNDS.

The appropriation of $250,000.00 for the Exposition building at Los Angeles, became available the first part of 1910. The plans were completed for a steel frame structure, and veneer walls of tapestry brick. Bids were asked for this building on May 3, 1910, and the F. O. Engstrum Company, of Los Angeles, being the lowest bidders, were awarded the contract. The contract price was $174,359.00. The Board of Directors of the Agricultural Society, who have charge of the Agricultural Park in Los Angeles City, were desirous of having a basement, in order to increase the amount of display space they might have in this building. A resolution was passed by such society, and, after talking the matter over with the Advisory Board of the Department of Engineering, it was finally concluded to allow this additional work upon estimates prepared by us. When this structure is completed it will give to California one of the finest buildings under her control. This building covers a ground area of 32,540 square feet.

ARMORY BUILDINGS.

The $100,000.00 appropriation for an armory building for the city of Los Angeles, has been discussed at least a half a dozen times with those interested in the subject. The Agricultural Society Directors of Los Angeles objected to having a building placed on the agricultural grounds that was not in keeping with the structures that the State and county are building there. To meet the demands and needs of the armory building, it would be necessary to appropriate about $300,000.00 that they might have a building of concrete or steel frame. Otherwise, the $100,000.00 appropriated would not give them all the structure they asked for, if made cheaply of wood. For these reasons, this building has gone over, and nothing has been done towards its construction. The San Francisco armory, for which there was $420,000.00 appropriated, is in the same predicament, that it has no site. We have endeavored, for at least a year and a half, to have this matter brought forward, that we might begin the plans on this work, but, as it was demanded that the city of San Francisco give a site, it was absolutely necessary that we withhold any work until such site is selected. Therefore, the Department could not do any work on this structure.

STATE CAPITOL.

The Legislators who assembled in the State Capitol two years ago, made complaint against the ventilation of the Assembly and Senate chambers, and also the committee rooms, and the rooms of the Speaker and the President of the Senate. The Capitol had just undergone improvements to the extent of $350,000.00, yet the Legislature, by resolution, appropriated $4,500.00, to place in the State Engineer's hands, in an endeavor to remedy the defects in the heating and ventilating of the rooms mentioned above. This work is now under contract to the Park Sheet Metal Works for $4,300.00, and will be finished during the month of December. It is to be hoped that we can improve largely the bad ventilating and heating, but it is a difficult matter to take over this class of work, and attempt to do anything with it, when one does not know what he is going to strike beneath the plaster surface. This Department, however, has used its best efforts, for the money, to bring about an improved condition in this matter.

CAPITOL GROUNDS.

The southeastern corner of the Capitol grounds was left in an unsightly condition by the removal of the old pavilion. It was necessary to do a lot of filling and grading, and other work, to make this corner of the Capitol grounds presentable. The Capitol Commission, therefore, placed $2,500.00 at our disposal, and we undertook to fill in the hole left by tearing this building down, and make this particular spot correspond somewhat to the remainder of the grounds. It was estimated that to make this fill would require 5,000 cubic yards of material to cost fifty cents per yard. This Department placed 5,732 cubic yards of material on the old building site, and a depression immediately to the west of it, at a cost of $2,246.76. Additional work was requested by the Capitol Commission, and therefore new walks were laid out, and a walk through Fourteenth street from N to M streets was made, and from M to L streets it was widened and straightened, so as to agree with the street line. The walk, which is a continuation of M street, and which formerly made a turn to go around the pavilion, was cut straight through, and had to be entirely resurfaced. Several trees were removed, and an automatic sprinkling system was installed on the east one half of the new grounds, at a cost of $562.00, materials being purchased with an unexpended balance of the appropriation of 1907. The total expenditures on the improvements made was $3,644.07. Recently, an estimate of work for the Capitol grounds was turned over to the Capitol Commission. It is given herewith, with the idea that the different items may be looked into, and, if all the work cannot be done, some of the parts most necessary to keep the grounds in good shape should certainly be carried out.

ESTIMATE ON CAPITOL GROUNDS IMPROVEMENTS.

November 10, 1910.

The question of lighting the grounds was taken up by the Mechanical Engineer of the Department (Mr. Luppen), who estimates that for an equipment of 75 lamps on 60 poles, with underground conduit wiring, the cost will be $104.00. This estimate is based on using Westinghouse metallic flame, 4 ampere, 65 volt arc lamps.

In order to complete the granite posts and chains around the southeast corner of the Park, and to replace one damaged post, 44 posts will be required at cost of $16.00 each, including chains, and new section of sidewalk will be required from Fourteenth and N streets to Fifteenth and M streets. This is necessitated by the fact that the old pavilion set out beyond the regular street line. There will be 3,660 square feet required here, which would cost not to exceed twelve cents per foot.

An inspection of the sidewalk on Tenth street, together with some small spots on N and L streets, shows 400 square feet of sidewalk to be relaid. On N and L streets, between Eleventh and Twelfth, a redwood board is at present used to restrain the earth in the flower beds immediately inside the park lines. This should be replaced with a concrete curb. It will require 665 feet and will cost fifty cents per foot. There are about ten of the coping stones, from Tenth and M to Eleventh and N, that have been pushed out of line by the growth of large trees back of them, and should be replaced. It will cost about $37.50.

The three walks running from Tenth street to the front of the capitol are in bad condition, the concrete blocks having separated to a considerable extent, and the walks being very uneven. These walks can be replaced, properly crowned to secure drainage, at a cost of $1,844.00.

A walk around the northwest and southwest corners of the capitol, would afford a means of passing around the building without walking on the carriageway, and prove a great convenience. These two walks could be laid for $120.00.

The driveway in front of the capitol, which is at present paved with concrete, has not sufficient crowning, considering its surface, to drain well. The best improvement to be made here, will be to cover the driveway with a wearing surface of asphalt, which will not only provide proper drainage, but will also deaden the noise of passing vehicles. The cost of this improvement will be $2,241.00, figured at $1.35 per square yard.

The completion of the southeast corner of the grounds will require an expenditure of about $500.00, to provide the necessary walks and curbings.

A set of steps on the terrace, below the northeast corner of the capitol, will require an expenditure of approximately $50.00. A walk could then be made where a trail has been worn. In order to prevent the spread of Bermuda grass under the concrete walks, and the consequent breaking of the walks by the growth of this grass between the cracks, a concrete grass stop should be put in. This would require 17,500 lineal feet of grass stop, six inches by two inches (6″ by 2″), and would cost $746.00. The extension of an automatic sprinkling system over the entire grounds will cost about $12,000.00, including the laying of new mains. In order to make a sprinkling system effective, however, some stated pressure must be maintained. With the use of water from the city mains this can not be done, as the pressure in the city mains fluctuates a great deal during the day. Nor are the city mains large enough to furnish the amount of water needed for the building and park. We would, therefore, recommend the installation of an independent pumping system, which would cost as follows:

Wells	$400 00
Pumps, motors, etc., installed	1,000 00
Tank and pump room to be located under asphalt driveway, to the east of the capitol	1,400 00
Total cost of water supply	$2,800 00

This will give us a tank, with a capacity of 50,000 gallons storage, and a pump capacity of 12,000 gallons per hour.

The amount of water needed to sprinkle the lawns, figuring on a basis of two-acre feet per annum, would be about 90,000 gallons per day.

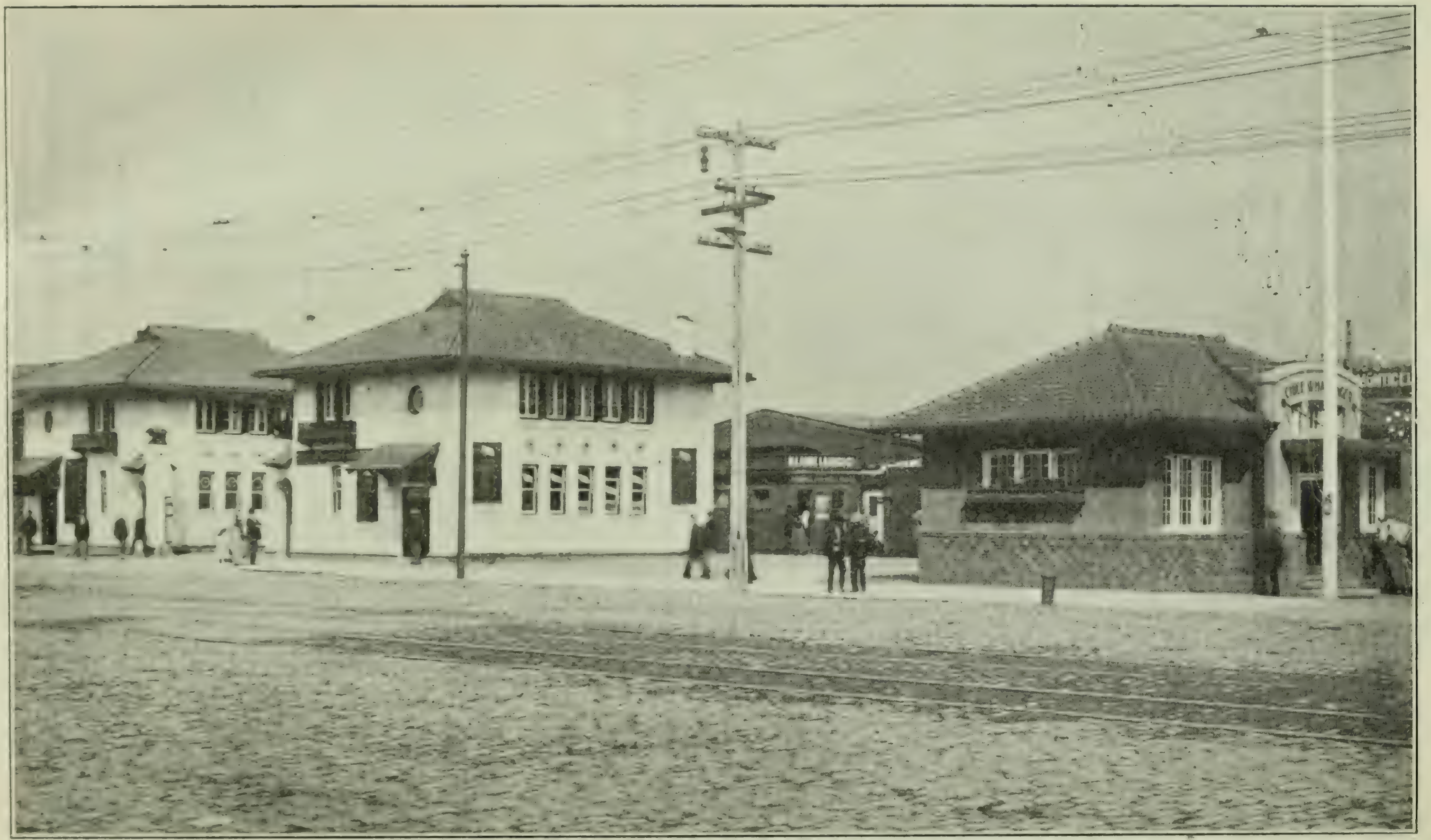
Following is a table showing these costs:

SUMMARY.

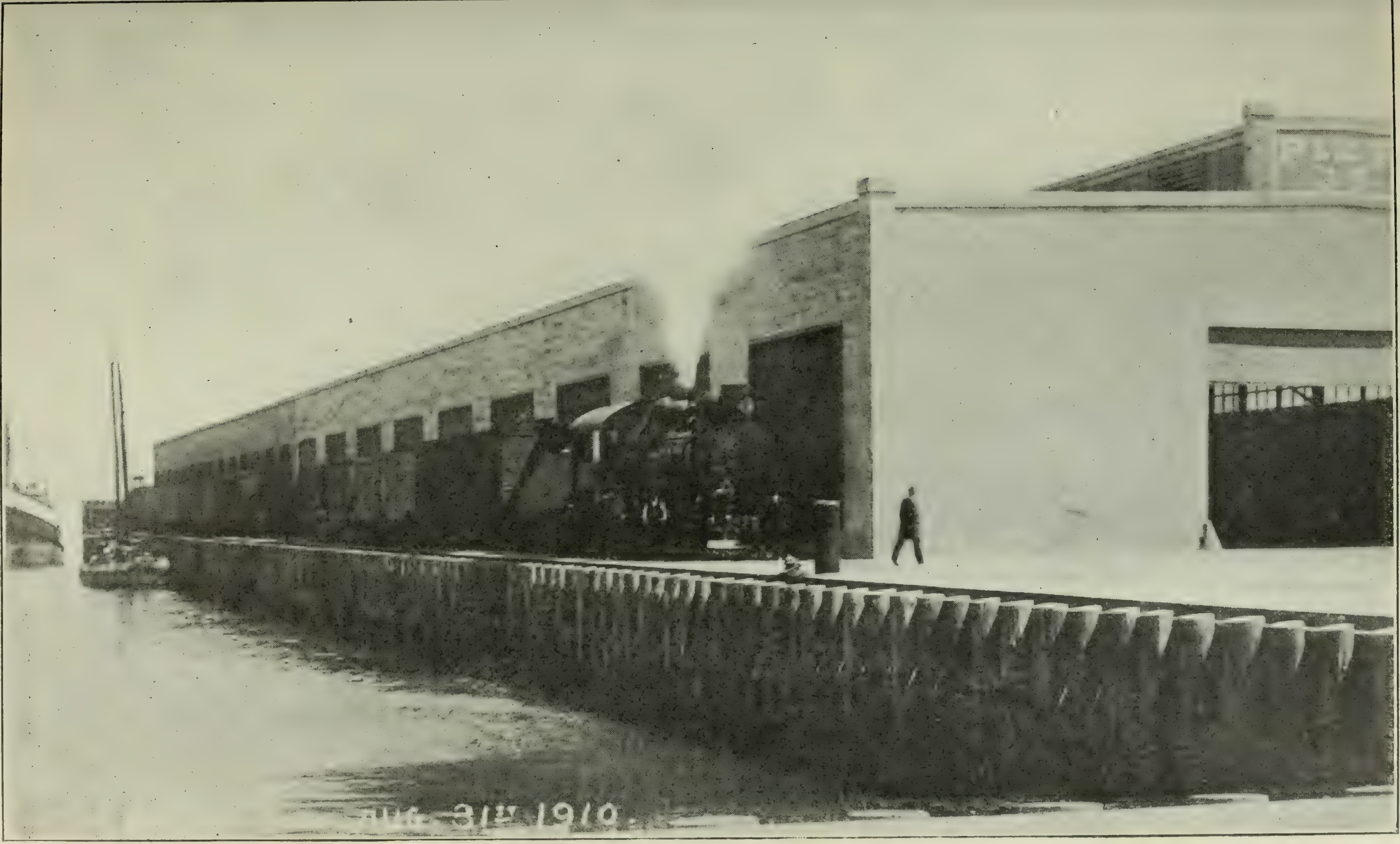
Electric lights	$10,400 00
Pumping plant	2,800 00
Asphalt wearing surface	2,241 00
Automatic sprinkling system	12,000 00
Relaying three walks from Tenth street	1,844 00
Granite posts and chains	704 00
Concrete curbing	332 50
New sidewalks on N and Fifteenth streets	439 20
Repairs to sidewalks	48 00
Replacing coping stones	37 50
New walks around corners of capitol	120 00
Completion of southeast corner	500 00
Concrete steps on terrace	50 00
Grass stop	747 60
	$32,263 80

OFFICE BUILDINGS, SAN FRANCISCO WATER FRONT.

Two buildings, just to the north of the Ferry Building, were designed to meet the needs of the river transportation concerns. These structures are reinforced concrete, resting on a concrete bulkhead over the sea



Office Buildings, San Francisco Harbor Front, Built of Reinforced Concrete.



Pier 36, San Francisco Harbor Front, Built of Steel and Concrete.

wall, and are tile roofed. They were contracted for by the Harbor Commission, for the sum of $16,600.00. Our estimate of the same was $16,060.00. This is the only building work that has come up on the harbor front, with the exception of the warehouses on the new docks.

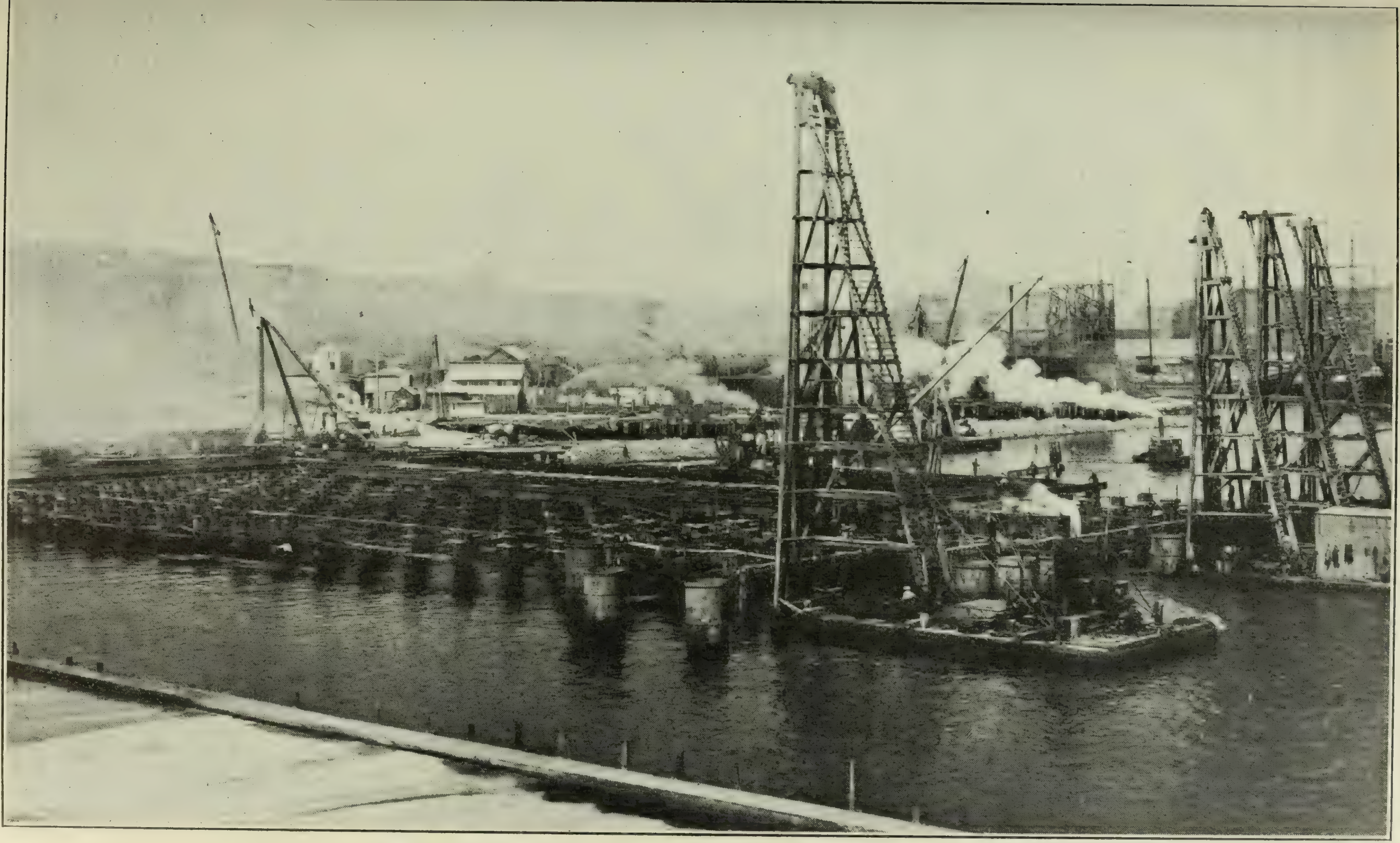
WORK AT CALIFORNIA-REDWOOD PARK.

Five thousand dollars was appropriated for a sewer system and water plant, to be established near the headquarters in the park. Plans and specifications have been made for this work, but in nowise contemplated structures of much permanency. We advertised for this work, and the lowest bidder being Mr. W. N. Booth, of Santa Cruz, he was awarded the contract. He began work on September 11, 1909, and finished the work, with the exception of the delivery of two or three plumbing fixtures, on November 1, 1909; but, as soon as the season opens in this park, we expect to have certain changes made in the plumbing fixtures.

SUTTER'S FORT WORK.

During the 1909 session of the legislature, the matter of an appropriation for the macadamizing of L street was brought to my attention, through the Governor. He desired an estimate. Instead of the $6,000.00 appropriation asked for, our estimate was $4,000.00. The appropriation was made upon this basis, and later, when the work came to be done, we paved the street with asphaltum, a much finer quality of pavement, for $3,610.82. In addition to the appropriation for street work, there was appropriated $7,000.00 for improvements at the fort. Under this latter appropriation, the following improvements, with the estimate and the cost of the same, is given. After we had obtained the street work on L street, the question came up of paving Twenty-eighth street, in front of the grounds. The Board of Examiners allowed a deficiency for the work to be done, at the same rate. This latter work covers 428 lineal feet of street, and cost the State of California $1,102.07. A new lake, about equal in size to the old one, was excavated, and connected with the old lake, the connection being bridged with a rustic bridge, at an expenditure of $392.01. The two lakes were surrounded by a substantial fence, at a cost of $150.00. The southwest corner of the grounds, and the south side, were leveled and graded, and a horseshoe drive made from L street to the south entrance gate, and water piping and hydrants installed in the grounds, at a total cost of $2,023.98. A septic cesspool, and two toilets, were installed on the inside of the fort, near the east gate, at an expense of $284.08.

All of this work was done by day's labor, and at a total expense of $600.00 less than the estimated cost.



Pier 36, San Francisco Harbor Front, Showing Pier Construction.

The roofs of the old buildings on the inside of the fort showed great deterioration of the patent roofing, and the drip from the eaves was wearing the base of the buildings. These roofs have been recovered, and the eaves provided with gutters at an expense of $600.00, and downspouts have been taken into the tile drains, and all of the storm water thereby discharged into the sewer, at a cost of $30.00.

ARCHITECTURAL WORK OF THE DEPARTMENT.

About four years ago, at the inception of the Department of Engineering, the plans of the buildings that the State then owned were remarkably deficient, and if one desired to obtain information relative to a building, it was difficult to do so from the drawing. Again, filed copies of the plans, specifications, and estimates, were incomplete, and it was difficult to get a plan or specification that represented the finished job. This fact has been borne out, since the inauguration of the Department, in our endeavors to obtain the plans of the old structures, that they might give us some desired information. This we were unable to get, and practically had to resort to the scheme of measuring the structure on the ground. It was my intention and purpose to change such methods of making plans, and such methods of keeping them as records of the State. The proper upkeep of the system of plans and specifications of State work is worth thousands of dollars to California every year, and I think the Legislature would be loath to make any changes that would again throw this matter into chaotic condition. Before the establishment of the Department, I have personally seen plans furnished the State, that I considered totally inadequate to perform the functions for which they were designed. Perhaps the notion obtained that a government would put up with most anything. This is entirely wrong, and should not for a moment be countenanced. The plans the State gets for its work should be of the best. They should, in the case of a building, give the elevation views, plan views, architectural scale drawings, engineering scale and detail drawings, and full sized detail. We have furnished such plans to the State of California, and I invite any citizen's attention to the completeness of the plans and specifications now furnished the State by the Department of Engineering. I again invite the same attention to similar papers furnished the State prior to the establishment of the Department. It is perfectly right that a man, in his technical lines, be able to get for his work the percentage he charges on plans and specifications. I have a few figures in mind at the present time, which, understand me, I am not criticising, but which indicate to the State how work of this nature is accomplished.

For instance, during 1906-7 there was constructed a frame building for the San Francisco Normal School, which cost $82,000. The architect's fees, upon the usual percentage, and some additional items, was $4,500. The square feet of drawings presented by these architects were fifty-four. A building of this magnitude and cost, if designed by the Department, would not now cost over $2,000, and we would have about 160 to 170 square feet of drawings. Where the plans and specifications are meagre, there is entirely too much latitude to both the architect and the contractor. This is a problem that means much to the State, because, a few years ago, it was the usual practice to allow some fellow to come before a board, and even talk up some installation of machinery or other construction that he desired to have installed in a state building. The plans he would present would practically be of no importance, yet he would get a good price for an article that might be of doubtful utility. All matters of construction that come before the State should be amply planned, before the State undertakes to make the purchase. The scheme allowing the seller to make his sketches, and present them with the price, outside of the very technical, is antiquated, and gives rise to bad business methods.

Before the Department's advent, 7½ per cent was usually charged on alteration plans. There is no objection to that, but the question is: Can the State save money by its own department? I propose in this article, not only to sum up the past two years', but the past four years' work, to show and to indicate that the price of plans, under the Department, have been away below what the State has been paying, and the plans have been complete, so that the extras on a job would be minimized. The Department has always given a great deal of time to the heads of the various institutions, that they might thrash out the needs of their buildings. In fact, we have allowed extraordinary time, in an endeavor to have the buildings satisfactory to the institution. Dozens of times have we submitted preliminary plans, and because some members did not have a full understanding of drawings, the Department was criticised on the ultimate plans. I can not but think and compare the work of the Department with some of the big architects' offices who handle a great deal of work. In the case of the State, each job, no matter how small, is passed upon and gone into thoroughly, while, if a minor job for the State were to go to some commercial office, it would be turned over to some draughtsman to be finished.

There is another plan in connection with the work of the State, where the architect charged his fee upon the appropriation, plus a percentage, where free labor is used at some of the institutions. He is entitled, commercially, to such an allowance, but the State obviates a great deal of this charge. During the spring of 1906, I was delegated by the Governor of the State to investigate some of the State buildings that had been ruined, or partially ruined, by the great disaster of that year, and I found, upon such investigation, numerous structures built for the State that certainly were not up to the specifications; or, if they were, the specifications were such as to be absolutely useless. Later, I examined a building at the Southern California State Hospital, that, by its own weight, was falling or splitting into two parts. This was due to a defect in construction. It was I who recommended the use of steel rods to hold the building together, that it might be fit for the occupancy of the insane patients. It is therefore necessary, after the plans and specifications are obtained, to see that they are carried out. With the uniformity, such as we have in the Department at the present time, there is small chance for the work to go awry. The plans and specifications of the Department are as complete as any in California. They have given good service, and I ask that the architectural work in general be looked over carefully, as I believe it is the equal of any.

I now present to you the figures of the Department, in connection with drafting alone, to show the saving that has been accomplished since its inauguration.

The cost of the architectural work of the Department, during the time of its existence, has been $5,720,869. The cost of the plans of the Department, during this time, is $103,062.00. The saving to California, after taking out the statutory salaries on this work, has been $170,262.00.

TABLE No. 1.

Cost of Building Plans, Giving Cost or Estimate and Plan Percentage Brought to Date.

Agnews State Hospital.

Buildings,	Cost.	Plans.	Operating Expense.	Percentage.	Remarks.
Laundry building	$2,278 10	$73 30		3.2	
Kitchen building, including connecting passage, $2,000.00	41,275 51	1,179 28	$133 86	3.2	
Commissary building	17,882 66	590 39		3.3	
Bakery building	22,932 26	661 43		2.8	
Large dining hall	43,384 00	1,930 99		4.4	
Connecting corridor	3,000 00	47 90		1.6	
Infirm buildings (two)	58,461 80	725 90	306 02	1.7	
Superintendent's residence	19,719 00	2,205 83	238 34	12.3	2 designs with many changes
Workers' cottages (two)	125,000 00	2,737 33	209 12	2.3	
Disturbed and violent (two)	85,860 00	2,446 99	555 88	3.5	2 designs
Receiving buildings (two)	178,568 63	3,065 52	487 30	1.9	
Treatment building	89,235 15	2,924 43	220 34	3.5	2 designs
Convalescent buildings (two)	60,000 00	1,478 37	117 60	2.6	
Demented buildings (two)	96,912 10	1,731 29	245 11	2.0	
Administration building	40,950 00	1,994 64	198 92	5.3	2 designs
Quiet and medium (two)	137,267 81	1,741 29	401 50	1.5	
Power plant and conduit	115,000 00	1,141 40	347 95	1.3	
Nurses' homes (two)	60,000 00	651 37	130 98	1.3	
Assembly building	100,000 00	2,595 33	171 30	2.7	2 designs
Block plan		270 91			
General drawing		71 95			
Perspective		71 00			
Typical detail		4 34			
Extra design		959 87			

Estimate, $1,300,000. Whole institution 2.7 per cent.

TABLE No. 2.

Schedule of Various Institutions, Cost of Building Plans, Giving Cost or Estimate and Plan Percentage, Brought to Date.

Buildings.	Cost.	Plans.	Operating expenses.	Percentage.	Remarks.
Stockton State Hospital.					
Cow barn	$6,000 00	$150 18		2.5	
Heating male ward	5,750 00	71 41		1.2	
Receiving building	81,062 00	2,347 30	$608 39	3.6	
Repairs to plumbing	7,500 00	30 68		0.4	
Sonoma State Home.					
Nursery barracks	2,000 00	73 39		3.6	
Dairy barn	5,000 00	170 05	60 44	4.6	
Manor house	15,000 00	537 29	40 32	3.8	
Administration building	74,976 98	2,362 10	531 85	3.8	
Southern California State Hospital.					
Dairy building	11,000 00	636 71	185 61	7.4	Changed four times.
Repairs to buildings	12,000 00	286 84	39 56	2.7	Alteration.
Receiving building	47,007 00	1,512 78	281 28	3.8	Changed four times.
Folsom State Prison.					
Cell building	475,000 00	2,315 77	364 62	0.5	
Entrance gate	40,000 00	771 59	191 96	2.4	
California Polytechnic School.					
Machine shop	6,100 00	176 53		2.8	
Cottages, Nos. 1, 2, 3	5,000 00	176 81	27 68	4.0	Three complete designs.
Propagation house	1,500 00	57 84		3.8	
Dormitory	21,000 00	674 19	184 51	4.0	
Creamery	10,000 00	509 47	122 80	6.3	Changed three times.
Napa State Hospital.					
Kitchen repairs	1,500 00	41 56		2.7	
Male detached cottages, 5	29,965 55	796 35	44 19	2.8	
Receiving building	91,000 00	2,303 07	208 81	2.7	
Veterans' Home, Yountville.					
Repairs to roofs	8,000 00	144 93	1 70	1.8	Alteration.
Plumbing repairs	2,500 00	56 63		2.2	Alteration.

TABLE No. 2.

Schedule of Various Institutions, Cost of Building Plans, Giving Cost or Estimate and Plan Percentage, Brought to Date—Continued.

Buildings.	Cost.	Plans	Operating Expenses.	Percentage.	Remarks.
Mendocino State Hospital.					
Receiving building	45,242 00	1,108 23	252 20	3.0	Revised two times.
State Agricultural Society.					
Lavatories	896 00	210 76		2.7	
Poultry building	4,480 00				
Stock building	2,190 00				
Agricultural pavilion	40,000 00	1,051 47	42 72	2.7	
Manufacturers' building	30,000 00	850 35	111 01	3.2	
Insectary	7,689 29	379 37	93 42	6.1	Nearly cabinet work.
Alaska-Yukon-Pacific exposition building	36,885 00	1,563 30	250 35	4.9	
San Jose Normal School.					
School buildings	343,369 00	11,191 60	951 87	3.5	
Ferry Buildings, San Francisco.					
Ferry building, south wing	7,300 00	280 04		3.8	Alteration.
Alterations, north wing	23,623 00	389 42		1.6	Alteration.
Wharfinger's office	4,842 00	122 78		2.5	Alteration.
Alterations, news and fruit stands	3,950 00	194 00	3 24	4.9	Alteration.
Post office	1,972 00	86 64		4.4	Alteration.
Adult Blind Home, Oakland.					
Dormitory	45,599 98	1,443 86	252 26	3.7	
San Francisco Normal School.					
Repairs to buildings	4,828 00	96 06		1.9	Alteration.
Preston School of Industry.					
Repairs to buildings	2,500 00	124 33	7 20	5.2	
San Quentin State Prison.					
Main cell building	2,000,000 00	8,861 27	428 49	0.4	
Totals	$3,564,227 80	$45,205 05	$5,286 48	1.4	

TABLE No. 3.

On New Work, Cost of Building Plans, Giving Cost or Estimate and Plan Percentage to December 1, 1910.

Stockton State Hospital.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
Laundry building	$6,705 00	$151 98	$4 13	2.3	
Power and electric plant	32,000 00	953 14	7 08	3.0	
Wiring old building (telephones)	3,000 00	283 43		1.4	
Convalescent building	33,564 00	1,021 91		3.0	
Water tower	25,000 00	453 40	2 95	1.8	

Sonoma State Home.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
Serving pantry	$20 00				
Gymnasium	12,105 00	$362 06	$1 18	2.9	
Repairs to hospital	7,500 00	136 77		1.8	
Power house	14,242 00	184 37	1 77	1.3	
Addition to kitchen and cold storage	12,162 57	72 25		0.5	
Epileptic cottage	20,000 00	793 84	171 56	4.8	
Cohn cottage	6,000 00	34 59		0.6	

Southern California State Hospital.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
Assistant physician's residence	$3,600 00	$223 13	$1 17	6.2	
Cottage No. 2	17,000 00	476 74	1 18	2.8	
Cottage No. 3	36,111 00	843 96		2.3	
Refrigerating plant	3,600 00	100 73		2.7	
Laundry addition	2,894 00	138 27		4.7	
Congregate dining hall	12,600 00	570 03	1 18	4.5	
Survey		58 22			

Folsom State Prison.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
Criminal insane	$40,000 00	$434 70	$58 11	1.1	

California Polytechnic School.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
Dining hall	$8,078 27	$189 20		2.3	
Employees' cottage	2,286 61	82 04		3.5	
Power house	6,271 00	118 89	$2 36	1.9	
Addition to cow barn	1,781 00	32 22		1.8	
Septic tanks	6,000 00	49 28		0.8	

Napa State Hospital.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
Female detached cottages	$28,402 00	$188 00		0.6	

TABLE 3—Continued.

Buildings.	Cost.	Plans	Operating expense.	Percentage.	Remarks.
Veterans' Home, Yountville.					
Addition to kitchen	$1,305 00				
Administration and social hall porches	500 00				
Commissary	9,553 91	$183 35	$20 81	2.1	
Hospital addition	5,000 00	143 60		2.8	
Plumbing repairs	30,000 00	159 35		0.5	
Mendocino State Hospital.					
Dormitory (tent group)	$2,500 00				
Sitting room	2,500 00				
Assistant physician's residence	3,500 00	$54 16		2.7	
Dairy barn	5,000 00	108 39		2.1	
Assistant physician's garage	200 00	5 10		2.5	
Kitchen addition	6,492 00	77 16		1.1	
State Agricultural Society.					
Addition to band stand	$100 00	$11 52		11.5	
Machinery hall	30,000 00	$1,038 23		3.4	
Water tower	5,000 00	44 78		0.8	
Bull ring	100 00				
Entrance shelter	135 00				
Blacksmith's shop	150 00				
Dining hall	6,000 00	129 33		2.1	
Layout of grounds		70 42			
Ferry Building, San Francisco.					
Office buildings (two)	$16,600 00	$238 60		1.4	
Adult Blind Home, Oakland.					
Fence and improvement of grounds	$12,500 00	$90 12		0.7	
San Diego Normal School.					
Training building	$50,000 00	$844 61	$17 27	1.7	
Preston School of Industry.					
Power plant	$25,000 00	$605 84		2.4	
Refectory building	75,000 00	1,003 72		1.3	

TABLE 3—Continued.

Buildings.	Cost.	Plans.	Operating expense.	Percentage.	Remarks.
San Quentin State Prison.					
Guards' cottages	$6,000 00	$73 14	----------	1.2	
Big Basin California Redwood Park.					
Log cabin	$6,000 00	$132 72	----------	2.2	
Toilets	250 00	16 50	----------	1.0	
Governor's Residence, Sacramento.					
Sleeping porch and alterations	$1,333 99	$2 88	----------	0.02	
Los Angeles Exposition Building.					
Exposition building	$206,506 00	$3,003 30	----------	1.4	
Whittier State School.					
Band cottage	$20,025 00	$561 17	----------	2.7	
State Capitol, Sacramento.					
Ventilating system	$4,300 00	$175 48	----------	4.0	
Chico Normal School.					
Training building	$29,168 85	$466 03	----------	1.5	
Totals	$856,642 20	$17,471 23	----------	2.0	

TABLE OF COSTS AND PROFITS ON THE SAN JOSE NORMAL SCHOOL BUILDING.

	Approximate estimate.	Material.	Labor.	Total.
Excavation	$6,200 00	$2 38	$4,155 37	$4,157 75
Concrete	138,150 00	55,838 73	24,088 74	79,927 47
Tile roof in place	9,000 00	6,433 98	962 75	7,396 73
Composition roof	1,160 00	780 75	386 35	1,167 10
Brick and tile inlay in place	9.293 00	3,043 95	4,785 35	7,829 30
Flooring in place	4,830 00	4,384 85	1,584 98	5,969 83
Lumber and carpenters' ironwork	13,200 00	4,615 46	5,579 80	10,195 26
Mill work	25,000 00	12.403 53	9,562 34	21,965 87
Plastering (interior)	23,925 00	5,800 00	7,086 30	12,886 31
Plastering (exterior)	9,170 00	1,703 62	3,862 19	5,565 81
Tile floors	112 00	94 64	50 75	145 39
Cement floors	2,500 00	615 60	1,361 63	1,977 23
Tile partitions	7,550 00	4,447 12	1,908 25	6,355 37
Painting	5,000 00	769 07	2,630 62	3,399 69
Plumbing, including vacuum system	19,000 00	5,996 80	3,557 09	9,553 89
Heating, ventilating and sheet metal	12,000 00	11,183 77	4,699 23	15,883 00
Electric work	5,500 00	2,543 99	1,668 11	4,112 10
Finish hardware	1,500 00	Furnished by State.		
Marble	14,550 00	5,040 95	1,795 90	6,836 85
Blackboards	1,700 00	1,262 50	226 40	1,488 90
General expense		12 25	8,429 88	8.441 53
Sheds and scaffolds		122 27	836 47	958 74
Plant and tools		2,773 34	3,813 44	6.586 78
Ornamental iron		3,588 31	212 52	3,800 83
Metal roofing		41 33	77 25	118 58
Skylights		147 37	19 30	166 67
Machinery		4 08	47 17	51 25
	$309.340 00	$133,650 65	$93,287 58	$226,938 23
Inspection (Department of Engineering)		.01498		4,086 41
Drafting (Department of Engineering)		.03475		9,479 69

Contract—F. O. Engstrum Company		$272,797 00
Additions made in contract		1,705 35
		$274,502 35
Actual cost of building	$226,938 23	
Sub-contractor's profit	6,079 74	
Extras	1,027 66	
Deductions on account of differences	6,053 91	
	$240,099 54	
Less sub-contractor's loss	68 88	
Actual cost to F. O. Engstrum Company		240.030 66
Profit—F. O. Engstrum Company		$34.471 69

Contract—F. O. Engstrum Company		$272,797 00
Extras:		
Three sinks		262 50
Painting registers		60 00
Old concrete—276.57 yards at $5.00		1,382 85
		$274,502 35
Deductions:		
Difference in excavating Library Building—156 yards at $.75	$117 00	
Difference in concrete—18.81 yards at $8.00	150 48	
Difference in excavating Science Hall—121 yards at $.75	90 75	
Difference in concrete—18.71 yards at $8.00	149 68	
Difference in material for floor in tower	46 00	
Difference in reinforcing fabric	2,900 00	
Finish hardware, supplied by State	1,500 00	
Liquidated damages—41 days, $15.00	1,025 00	
		6,053 91
Net amount paid by State		$268,448 44
Cost to F. O. Engstrum Company		233,976 75
Profit—F. O. Engstrum Company		$34,471 69

TABLE OF GENERAL ENGINEERING WORK AT PUBLIC INSTITUTIONS.

	Estimated cost	Contract price.	Actual cost
New Lake, Sutter's Fort	$600 00	Day's labor	$542 01
Improvement, southwest corner, Sutter's Fort	2,500 00	Day's labor	2,023 98
Toilets and septic cesspool, Sutter's Fort	300 00	Day's labor	284 08
Reroofing, Sutter's Fort	600 00	$605 00	631 00
Asphalting L street, Sutter's Fort	3,500 00	3,249 74	3,249 74
Water tower and pumping plant, State Fair grounds	10,000 00	Day's labor	9,999 87
Improving grounds, State Fair grounds	10,000 00	Day's labor	9,952 91
Sidewalk and street work, Derby street, Berkeley Blind Home	3,376 00	$3,296 00	2,908 05
Sidewalk and street work, Dwight Way, Berkeley, Blind Home	1,200 00	1,035 11	912 83
Fire Line, Blind Home	1,750 00	Day's labor	1,608 00
Fence, Oakland Blind Home	2,000 00	$1,560 00	1,779 95
Paving, Oakland Blind Home	3,000 00	2,400 00	
Sidewalk, Oakland Blind Home	900 00	860 00	730 60
Water tank, Oakland Blind Home	1,200 00	1,200 00	1,219 05
Sidewalk, San Francisco Normal School	450 00	409 17	365 00
Septic tanks and sewers, California Polytechnic School	----------	Day's labor	5,795 12
Water system, California Polytechnic School	----------	Day's labor	Work in progress.
Septic tanks, sewers and water system, California Redwood Park	4,900 00	$4,800 00	$3,248 41
Sidewalks, San Jose Normal School	550 00	546 25	600 80
Curbs, San Jose Normal School	1,725 00	1,449 66	1,782 30
Settling tanks, Napa State Hospital	10,000 00	Day's labor	11,589 94
Repairing partition wall, Napa State Hospital	750 00	Day's labor	704 75
Pipe lines, Napa State Hospital	15,000 00	Day's labor	12,815 85
Water tower, Stockton State Hospital	8,040 00	$8,030 00	8,550 95
Septic tanks, Veterans' Home	3,000 00	Day's labor	3,782 86
Improvement southeast corner Capitol grounds	2,500 00	Day's labor	3,644 07
Storm drains, Southern California State Hospital	15,000 00	$13,746 29	10,860 95

TABLE OF UNIT COSTS, SAN JOSE

Contract

	Segregation No...	Material........	Labor...........	Total material and labor....	Percentage of total cost.......	Quantity.. .....
General expense	1	$12 25	$8,114 08	$8,126 33	.0359+	----------
Preliminary	2	----------	315 20	315 20	.00139+	---------
Sheds and scaffolds	3*a*	122 27	836 47	958 74	.00424+	----- ----
Plans and tools	3*b*	2,773 34	3,813 44	6,586 78	.02914+	----------
Excavating	4*a*	2 38	3,555 27	3,557 65	.01839+	Cubic y'ds 6,324
Fill	4*b*		188 60	188 60		Cubic y'ds 2,280
Grading	4*c*		411 50	411 50	---------	---------
Brick masonry	5*a*	3,043 95	4,785 35	7,82 30	.03464+	M 123,568
Brick masonry	5*a*	----------	----------	----------	----------	Sq feet inlay 20,076
Terra cotta masonry	5*c*	4,447 12	1,908 25	6,355 37	.02812+	Sq. feet 56,954
Forms	6	10,856 28	18,851 17	29,707 45	.13144+	Sq. feet 364,855
Concrete	7	26,917 29	4,963 07	31,880 36	.14106+	Cubic yds. 8,031
Reinforcing bars	8*a*	15,829 56	183 65	16,013 21	.07085+	Lbs. 493,534
Reinforcing fabric	8*b*	2,235 60	90 85	2,326 45	.01029+	Sq. feet 115,567
Structural steel	9	7 00	23 60	30 60	.00013+	Lbs. 1,675
Sheet metal	10	717 77	662 90	1,380 67	.0061+	Sq. feet 11,071
Ornamental iron,	11	3,588 31	212 52	3,800 83	.01681+	Lbs. 41.331
Trusses, including carpenters' rough work, etc.	12*a*	4,608 46	5,556 20	10,164 66	.04497+	B. M. 112,613
Doors and windows	12*b*	8,369 50	5,712 58	14,082 08	.0623+	Openings 745
Mill work	12*c*	4,034 03	3,849 76	7.883 79	.03488+	Feet 91,195
Metal lath and furrin	13*a*	2,571 13	612 52	3,183 65	.01408+	Sq. feet 80,284
Wood lath and furring	13*b*	15 00	1,286 15	1,301 15	.00571+	---------
Exterior plastering	14*a*	1,703 62	3,862 19	5.565 81	.02462+	Sq. y'ds. 9.900
Interior plastering	14*b*	2,912 75	4,391 00	7303 75	.03231+	Sq. y'ds. 19,653
Ornamental plastering	14*c*	207 53	451 60	659 13	.00291+	Sq. feet 5,414
Painting and Waterproofing	15	743 82	2,589 02	3,332 84	.01474+	Sq. feet 79,293
Underground pipe	16	75 24	108 81	184 05	.00081+	Lin. feet 3,187
Tile, slate and shingle roofing	17*a*	6,433 98	962 75	7,396 73	.03272+	Sq. feet 33.116
Metal roofing	17*b*	41 33	77 25	118 58	.00052+	Sq. feet 676

STATE NORMAL SCHOOL BUILDING.

$272,797 00

Unit cost of material	Unit cost of labor	Cost per cubic yard of concrete	Sub-contract	Extra material over sub-contract	Extra labor over sub-contract	Sub-contractor's profit	Sub-contractor's loss	Unit cost on sub-contracts to F. O. Engstrum Co.
.5625								
.0827								
24.78	38.95+							
.078+	.0335							
.0299+	.0516	$3.699						
.335	.617+	3.967						
.032+	.00037+	1.774	Includes 8*a* and 8*b* $22,150 00			$3,810 34		
.0193+	.00078+	.288+						
.0037+	.01258+							
.0648+	.0598+		Includes 10-17*b* and 20 $17,500 00			1,498 42		
.0868+	.00514							
40.93	49.42							
11.234	76.67							
44.23	44.21							
.032+	.0076+							
.0172+	.39+							
.148+	.223+							
.0383+	.0834+		732 00	93 60	345 03	72 87		.216+
.00938+	.0327+		3,800 00	25 25	41 60	467 16		.0487+
.0236	.0341+		216 00	339 33	92 85	31 95		.203+
.194+	.029+		9,498 00			2,299 82		.286
.061+	.114		Includes 10, 17*b* and 20. $17.500 00					

TABLE OF UNIT COST, SAN JOSE

Contract

	Segregation No.	Material	Labor	Total material and labor	Percentage of total cost	Quantity
Asphalt roofing	17*c*	$780 75	$386 35	$.1167 10	.00516+	Sq. feet 25,87
Cement flooring	18*a*	615 60	1,361 63	1,977 23	.00874+	Sq. feet 24,341
Wood flooring	18*b*	4,384 85	1,584 98	5,969 83	.02641+	Sq. feet 59,319
Electric, rough or finish	19	2,543 99	1,568 11	4,112 10	.01819+	Openings 429
Heating and ventilating	20	10,466 00	4,036 33	14,502 33	.06416+	----------
Plumbing, rough or finish	21	5,582 23	3,355 43	8,937 66	.03954+	Fixtures 157
Skylights	22	147 37	19 30	166 67	.00073+	Sq. feet 384
Marble	23	5,040 95	1,795 90	6,836 85	.03025+	Sq. feet 8,715
Tile and mosaic	24	94 64	50 75	145 39	.00064+	Sq. feet 253
Machinery	27	4 08	47 17	51 25	.00022+	----------
Blackboards	28	1,262 50	226 40	1,488 90	.00658+	Sq. feet 7,320
Totals	------	$133,192 47	$92,808 10	$226,000 57	.99969+	

STATE NORMAL SCHOOL BUILDING—*Continued.*

$272,797 00

Unit cost of material..........	Unit cost of labor	Cost per cubic yard of concrete	Sub-contract	Extra material over sub-contract	Extra labor over sub-contract...	Sub-contractor's profit...........	Sub-contractor's loss	Unit cost on sub-contracts to F. O. Engstrum Co.
.0301+	.0149+	--------	$1,189 42	--------	--------	$22 32	--------	.0459+
.0252+	.0559+	--------	--------	--------	--------	--------	--------	--------
.0739+	.0267+	--------	--------	--------	--------	--------	--------	--------
5.93	3 42	--------	3,980 00	--------	--------	--------	$43 98	9.2
--------	--------	--------	Includes 10, 17*b* and 20 $17,500 00	--------	--------	--------	--------	--------
35.55	22.07	--------	--------	--------	--------	--------	--------	--------
.386+	.05+	--------	--------	--------	--------	--------	--------	--------
.58+	.206+	--------	8,556 00	--------	--------	1,719 15	--------	.9817+
.374+	.20+	--------	--------	--------	--------	--------	--------	--------
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.172+	.03+	--------	$1,464 00	--------	--------	--------	24 90	.20+

TABLE No. 1.

Building.	Estimates filed.	Lowest Bid received.	Cost as constructed.	Cubical contents.	Cubic cost.	How constructed.	Remarks.
Agnews State Hospital.							
Kitchen	$39,232 00	$46,000 00	$39,271 51	249,240	$.160	Day's labor.	Building of reinforced concrete, reinforced brick and steel.
Additional refrigerator plant		8,740 00	Kitchen utensils, $4,580.00; corridor, $2,000.00. Ordered by board.				
Dining hall	45,000 00		$43,384 00	271,255	$.160	Day's labor.	$313.00. Extra fittings.
Demented building (male)	50,560 00 May 25, '08		51,027 94	271,776	.180	Day's labor.	Two stories. Reinforced concrete.
Bakery building	$18,500 00 Feb. 27, '09		22,932 26	123,360	.150	Day's labor.	See cost of additions to bakery building.
Additional ovens, $2,738.80; furniture, $812.00; shelving, $450.00.							
Commissary building	$17,975 00 Feb. 27, '09		$17,882 66	124,368	.140	Day's labor.	Building of reinforced brick, concrete and steel.
Two infirm buildings	$69,036 00 April 18, '08	$57,788 00 April 28, '08	58,461 80	368,736	.158	Contract.	Reinforced concrete bldg. Extra foundation and strips for roofs, $673.80.
Two receiving buildings	$212,000 00 May 25, '08	$176,028 00 June 17, '08	178,568 63	1,075,296	.166	Contract.	Reinforced concrete building. Excavating old foundations, $2,530.63.
Female demented building	$50,550 00 May 25, '08	$45,850 00 June 17, '08	45,884 16	271,776	.168	Contract.	Reinforced concrete building. Used rock instead of brick in floors and cement plinths, $34.16.
Quiet and medium building	$137,620 00	$136,102 00 Aug. 31, '08	137,267 81	367,008	.180	Contract.	Reinforced concrete bldg. Removing old concrete foundations, $1,165.81.
Disturbed and violent building	86,000 00	$85,860 00 Sept. 23, '08	85,860 00	450,476	.190	Contract.	Reinforced concrete building.
Superintendent's residence	25,350 00 Feb. 12, '08	$19,400 00 Mar. 3, '09	19,719 60	121,489	.150	Contract.	Foundation done by superintendent with patient labor.
Administration building	$47,084 00 Aug 14, '09	$40,900 00 Aug. 30, '09	40,950 00	237,348	.170	Contract.	Reinforced concrete. Extra electrical fixtures and panels, $50.00.
Treatment building	$90,594 00	$87,876 00	89,235 15	401,250	.220	Contract.	Finest building at Agnews.
Extra X-ray circuit and switches, $84,65; concrete steps, $400.00; heating and plumbing change, $165.00. Excavating old concrete as per contract, 1419.10 yards, at $5.00 = $709.50.							
California Polytechnic School.							
Dining hall	$11,079 00 Sept. 2, '09		$9,037 56	113.640	$.088	Day's labor.	Frame and plaster building.
Managers, $959 29 for furnishings.							

Employees' cottage	$2,310 00 Aug. 9, '09		2,286 61	15,628	.140	Day's labor.	Frame building.
Addition to cow barn	$1,808 00 Aug. 9, '09	$1,771 00 Oct. 4, '09	1,781 00	43,008	.040	Contract.	Frame barn, one door extra.
Power house	$6,294 00 Sept. 20, '09	$6,237 00 Oct. 5, '09	6,271 00	87,840	.070	Contract.	Frame and plaster, lowering floor 1 ft. 0 in., $34.00.
Chico Training School.							
Training building	$29,079 00 Sept. 8, '09	$27,768 00 Dec. 28, '09	27,168 85	252,632	.110	Contract.	Frame and plaster building.
Additional expenses—Heating, $680.00; inspector and expenses, $790.00.							
State Capitol.							
Heating and ventilating	$4,360 00	$4,300 00 Aug. 17, '10	$4,300 00			Contract.	Just completed.
Los Angeles Exposition Building.							
Exposition building	$206,400 00 May 1, '10	$174,359 00 May 4, '10	206,506 00	1,688,900	.123	Contract.	Steel frame, brick and tile.
Foundation cost to give new basement, $32,147.00, as per estimate and agreement.							
Napa State Hospital.							
Two detached cottages (With patient labor).	$10,000 00		$11,964 93	133,800	$.080	Day's labor.	Managers spent $385.38 for beds; supt. spent $1,214.55 for inside plumbing.
Kitchen	6,728 50		8,000 00			Day's labor.	Much work done over that estimated.
Cottages for females	23,243 00 July 19, '10	$23,142 00 Aug. 13, '10	Not completed.	434,760	.065	Contract.	For additional cottages at $1,315.00.
San Francisco Harbor Front.							
Two office buildings	$16,060 00 June 30, '09	$16,600 00	$16,600 00	49,000	.238	Contract.	Contract let by board.
Southern California State Hospital.							
Laundry building	$2,471 00 May 12, '10	7,000 00	2,894 00			Day's labor.	Additional cost by board. $2,106.00 spent for machinery.
Receiving building	$55,423 00 Feb. 3, '09	$47,412 00 June 28, '09	49,007 00	314,340	.150	Contracted.	Mostly wood, lath and plaster.
Dining hall	$13,589 00 April 19, '09	$13,000 00 Aug. 20, '09	12,600 00	201,824	.060	Contracted.	Placing extra story on brick building. Contractor deducted $400.00.
Assistant physician's residence	$3,220 00 April 23, '09	$3,711 00 June 29, '09	3,600 23	35,904	.100	Contracted.	Deduction, $110.77.

TABLE No. 1—Continued.

Building.	Estimates filed.	Lowest bid received.	Cost as constructed.	Cubical contents.	Cubic cost.	How constructed.	Remarks.
Cottage No. 2	$17,979 00 July 28, '09	$17,000 00 Aug. 16, '09	$17,000 00	162,460	.100	Contracted.	Frame building, concrete foundation.
Cottage No. 3	$34,522 00 Sept. 21, '09	$36,446 00 Oct. 12, '09	36,111 00	197,106	.180	Contracted.	Reinforced concrete building. Deducted $335.00.
San Jose School.							
Main building	$309,340 00 April 13, '09	$272,797 00 April 30, '09	270,963 00	1,766,136	.150	Contracted.	Reinforced concrete. Balance due State, $1,833.56. No auditorium.
Power house	$20,000 00 Mar. 30, '09	$25,676 00 May 1, '09	22,406 00	47,488	.047	Contracted.	This includes machinery. Deduction to contractor, $3,270.00.
Seattle Exposition Building.							
California building	$40,000 00		36,885 00	1,224,940	.030	Day's labor.	Building, high class; temporary.
State Agricultural Society.							
Agricultural building	$43,375 00	$50,900 00	43,375 00	1,243,864	.034	Day's labor.	Wooden building, plaster outside. First-class.
Manufacturers' building	25,458 00	29,057 00	24,674 00	574,940	.043	Day's labor.	Wooden building, plaster outside. First-class.
Machinery hall	26,290 00 May 15, '09		28,000 00	500,256	.055	Day's labor.	Wooden building, plaster outside, First-class.
Mendocino State Hospital.							
Receiving building	$47,638 00		42,472 00	274,920	.160	Day's labor.	Two-story reinforced concrete building.
Additional cost—Window guards, $720.00; hydrotherapy fixtures, $2,050.00, by managers.							
Addition to kitchen	$7,235 00 Nov. 1, '09		$6,492 00			Day's labor.	Managers bought $3,434.06 of kitchen furniture.
Dairy barn	$4,554 80 June 1, '09		5,000 00	45,908		Day's labor.	Reinforced concrete building. Managers desired additional work which was granted to them.
Preston School.							
Refectory building	$18,450 00 April 27, '09		19,980 00	550,048		Day's labor.	If built by contract, would have cost $75,000.00.
San Diego Normal School.							
Training building	$54,374 00 Aug. 23, '09	$57,000 00	50,000 00	376,640	$.130	Day's labor.	Reinforced concrete building.

Stockton State Hospital.							
Receiving building	$81,062 00 May 12, '08		55,624 34	414,420	.140	Day's labor.	Hydrotherapy fixtures, $2,417.48, by board.
Tunnel	$1,400 00		1,400 00			Day's labor.	Reinforced concrete tunnel from power house to receiving building.
Electric light system	Alteration work.		26,264 42 to date.			Day's labor.	Re-wiring according to superintendent.
Laundry building	$5,562 52, machinery $10,482 00 Sept. 24, '09		$5,082 50 B'ht by Mgrs. $6,705 00	204,204	.057	Day's labor.	Concrete building and some repairs to boiler plant.
Convalescent cottage	$33,564 00 Oct. 15, '09		$25,187 35 to date.	230,092	.140	Day's labor.	Reinforced concrete building.
Governor's Residence.							
Repairs			$1,333 99 to date.			Day's labor.	Building sleeping porch and general repairs.
Sonoma State Home.							
Administration buildiug	$70,725 00 Oct. 11, '08		$74,976 98	348,419	.215	Day's labor.	Reinforced brick.
Cold storage	$3,829 00 May 10, '10		2,690 00		.097	Day's labor.	Built of concrete.
Repairs to hospital	$7,332 40 May 23, '10		7,420 00			Day's labor.	Braced foundations and built addition.
Power house, stack and boiler	$14,281 00		14,242 00	141,000	.058	Day's labor.	Brick building.
Gymnasium	$11,390 00 Nov. 6, '09		12,105 11	126,228	.095	Day's labor.	Bldgs. on level ground could have been built for $10,000. Site changed by bd.
Kitchen and ice plant	$6,728, kitchen. 3,829, ice plant.		4,780 66 5,225 40			Day's labor.	These jobs worked together. Cold storage, placed, cost $2,690; kitchen utensils, $2,208, by board.
Veterans' Home.							
Commissary	$9,047 00 Sept. 28, '09		9,553 91	116,200	.082	Day's labor.	Wooden building.
Hospital	$5,000 00		5,000 00			Day's labor.	Addition of wood. Directors desired larger improvement and paid for it.
Repairs	30,000 00		20,119 31 to date.			Day's labor.	Not completed.

The foregoing table gives the percentages of cost during the past two years, except Agnews State Hospital.

During the construction of this building there was a change of superintendents at the Southern California State Hospital, and they did not agree upon some of the minor details of the building. We changed the structure to suit the last man in. This building was contracted by the Department for $47,412. In addition to this, there was $2,215 expended on a dark room for the superintendent. This structure cost the State at the rate of 14.9 cents per cubic foot of building, which is cheap, considering the work done. The balance left in this fund is being used by the Board of Managers for their needs in the building.

At Stockton State Hospital, after a full discussion of the matter of such a building with the superintendent, we were advised to get a good man as superintendent, and go ahead with the work. This we did, and as the superintendent was anxious to get this building, he proved of great assistance in furnishing patient labor, and in always coöperating to have the structure built for the money. The estimate on this building was $81,062.00, and the appropriation was $55,000. This building was constructed, all of the first story, of reinforced concrete. The central part had some wood on the top story. This building, as done by day's labor, cost $59,415.84, and this amount of money included hydrotherapy fixtures $2,417.45, heating plant $3,791.50, which totals $6,208.95. The money for the hydrotherapy fixtures came by a later appropriation, so that the building, with the heating plant, cost but a little over the original appropriation, and cost over $20,000 under our estimate. The cost per cubic foot of space for the building was 14 cents. This structure at Stockton is 25 per cent larger than the structure at Southern California, and yet we did this work by day's labor at a cheaper rate than the work of the South.

The receiving and treatment building at Agnews was entirely different from those at the other institutions, and therefore uncomparable in this article.

For the Napa State Hospital there was appropriated $35,000 in 1906, and this money was, under the terms of the act, usable for almost any construction. It was decided to begin the building upon a day's labor basis, and with patient labor, and to finish up when some later appropriation was allowed. We, therefore, began the construction of one wing and the central building, under the superintendency of Mr. A. R. Talmadge. This structure, as designed, was estimated at $91,316. This was as large as any of the four treatment buildings given in this article, and, to date, the building has one wing and the central portion complete, and the other wing almost complete, inasmuch as it needs mill work, glass work, and interior finish. The cost of this structure per cubic foot is 18 cents as it stands, and it is 387,100 cubic feet in cubical contents. Some time ago, during 1910, when the funds became exhausted for this structure, it was requested by the Board of Managers, through Dr. Hatch, that I turn this building over to the institution, that they might occupy the finished wing and central building, and complete the other wing.

At the Mendocino State Hospital we curtailed the original drawing for a receiving building there, and finally undertook to construct, with free and patient labor, a two-story reinforced concrete receiving building, of 275,000 cubic feet measurement, for the $30,000 appropriated. The estimate of the Department of Engineering for this structure was $47,638. The legislature of 1909 appropriated $12,500 extra for this structure. We began the work, and constructed the building for $42,472. The Board of Managers of the institution placed $720.00 for window guards in the building, and also hydrotherapy fixtures to the extent of $2050.00. This building was constructed for 16 cents per cubic foot, and is nearly as large as the receiving building at the Southern California State Hospital.

With the construction of the Mendocino, Napa, and Stockton receiving buildings, it was the duty of the Department of Engineering to have a foreman or superintendent on these jobs, and it was the duty of the board of managers of these institutions to purchase material, furnish labor, and do all other things in connection with the building, except provide the superintendent of construction, and seeing that the building was built properly. Thus, it is shown that the authority on these structures was thoroughly divided, but, where the superintendents worked coöperatively with the department we had fine success in this state construction.

In 1909, the Department of Engineering assumed full charge, and then endeavored to regain some of the lost advantage, but in some instances matters had gone so far that we were unsuccessful.

The Stockton and Mendocino buildings were finished at a cheaper rate than the Southern California State Hospital, done by contract, while the Napa receiving building has cost more than it should, but, as harmony did not prevail during its construction, it is easily accountable how the cost of a structure could be made heavy. The amount of patient labor at each of the three buildings is hereby given:

Stockton hospital 6,086 days, Mendocino hospital 3,421, and Napa hospital 7,993 days. Originally, the desire of the Department to put this labor to some good use and saving, was accepted in good faith, and I believe figures will prove, if handled correctly, the state may receive much benefit and saving.

MISCELLANEOUS WORK OF THE DEPARTMENT.

A department such as the Department of Engineering, where naturally considerable power is thrust upon it that it may do its required work, must meet adverse criticism. Politics has usually been done along the lines of least resistance, but whenever a new department is inaugurated, having for its purpose the concentration of the State's work so that it may be carried out on a business basis, adverse criticism springs into action, even if for no other reason than to obtain the power and prerogatives taken from some parties to invest in a new department. This matter has been especially noticeable in the organization of the Department of Engineering. Unsuccessful political attempts have been carried forward to check the methods of the department, but I believe the people of California want just such departments that will faithfully look after their expenditures, and endeavor to be fair and square with the people. I have not, until recently, resented the attacks of any one on the Department of Engineering, but I deem it no more than right that the people of this State should know the manner and means of trying to eradicate an office that has striven to carry its work along business lines, rather than along political lines. I ask the reader to look over the tables given in this report, and see the cost per cubic unit, and ask him to be fair and go back, if he can, and see what was paid heretofore for the construction work that was done for the State.

It is an extremely difficult matter to-day to get the cost of the old state structures, but under our present plan they are available almost immediately.

No doubt the State should undertake its construction, and keep it in first class shape, and after it has it in this shape it should be loth to make a change. I have no faith in permitting men to submit their own figures and schemes to the State, without competition. During my twelve years of public life, I have heard it said, a thousand times, that a government is legitimate prey. I have refuted and fought this sentiment, and, whenever a corporation such as the cement combination of California attempted to gouge the State, I attempted to prevent the gouge, and did so. This was caused by the fact that a few railroad companies were buying cement at or about $1.50 per barrel, and the State, a big buyer of this product, was expected to pay $1.75 per barrel. I believe that the State should buy this material as low as any good buyer, and should not be discriminated against. The fight was fought against the combination of cement people on those lines, and I obtained the cement at $1.50 f. o. b. factory. The San Francisco Harbor Commission had already contracted for 100,000 barrels of cement at the $1.75 factory price. They, however, put in the saving clause that the article should be bought at the same price that any other purchaser bought this article in California. When I made the deal for my Department I made the deal to protect the price on the harbor front. The board has already secured a considerable rebate on account of my deal, but for their contract to be carried out they should receive a rebate for every barrel they have purchased under the contract.

In matters where the State is a large purchaser, it should have as good price as any commercial house or undertaking has. Unquestionably, if the articles needed in construction work in the State could be bought in sufficient quantities, a vast saving could be made to the State. One matter that has come to my attention while in the Department of Engineering, has been the very important one of selecting and buying the plumbing goods for California. I have not done much of this buying, but I have gone sufficiently into the matter to know conclusively that about 40 per cent of the old price on plumbing, that we have been paying, can be avoided, and the State will get that saving with the equal of goods.

This subject I am prepared at any time to prove. It seems to be the disposition of all dealers to get together in the sale of their articles, but it should be the disposition of the State to absolutely and thoroughly resist this plan, or proposition, to gouge the State.

At the outset the Department of Engineering adopted a policy which it has endeavored to live up to. In some instances we have not been able to accomplish what we would like to, but we have struggled incessantly to accomplish the best results for the people.

In construction work, we have in the first place endeavored to get good architectural designers, then get good construction, and get this construction at a fair and reasonable figure. There has been bandied around, the idea that the Department has been unable to do the work required of it. This is as far from the truth as anything can be. In another place in this report, it is stated where we were months trying to obtain data upon which we might design the structure. Again, the employees of the Department are so arranged in their work that we can either increase or decrease the force on short notice.

There was some question as to the Department's ability to carry on the institution work, but I think that this feature has largely been eliminated, through the fact that the first two years of the Department's life the institution had practically the full power of construction, while the last two years the power of controlling the construction work has been transferred to this Department. Some of the officials of the institutions undoubtedly felt that their prerogatives were taken from them, but, in a case of this kind, it is necessary for a department of the State to have these powers concentrated sufficiently to bring the work to a business basis. The Department of Engineering is not desirous of having the expenditure of the money. It is desirous, however, of getting the State's money's worth, and doing business on a business basis for the State. It is high time that California stood out as a state unwilling in any way to restrict the purchasing power of its money. I firmly believe, in conclusion, that the work of the Department should be left solely in that Department's hands. The technical work should be done by technical people, if the State expects to get good results. In many instances where the institution needed a structure, it first asked for an appropriation, and then began to get as large a building as it possibly could for the money. For years, this method has been the usual practice. However, it is the belief of the Department that we should get some sort of a design, with layout and estimate, in an endeavor to know how much money to ask for to get the building desired. Much of the recent trouble with some of the construction, was because we endeavored to give them all we could for the money, and in some instances it was impossible.

The tables and statistics of the Department go to show, conclusively, that the day labor jobs have been within the contract jobs, and have usually been a saving to the State.

For the past two years, the work of the Department has gone on very satisfactorily. A few of the various boards of managers are inclined to find fault, but I think that after the full conditions are realized, and the savings made by the Department shown, they will be satisfied that the work should be done in the present manner.

Under old conditions, buildings had not progressed systematically, and it, therefor, takes some time to rearrange these conditions. In many instances, on account of the lack of funds, we were compelled to cheapen the heating plants. This is a mistake. In some instances the style of plant must be enlarged, and then follow that type. Again, lack of money actually forces us to use a cheap plant. The sanest and safest plan is to estimate the building before the appropriation is made. The office data now on hand is sufficient to give such information.

CALIFORNIA ROADS.

For the past eight years, I have consistently advocated the passage of a state aid road law, for the benefit of the common roads of California. This law was patterned after the New York aid law, and would have been, I think, the means of bringing about better conditions in road affairs than have heretofore existed under our system of management.

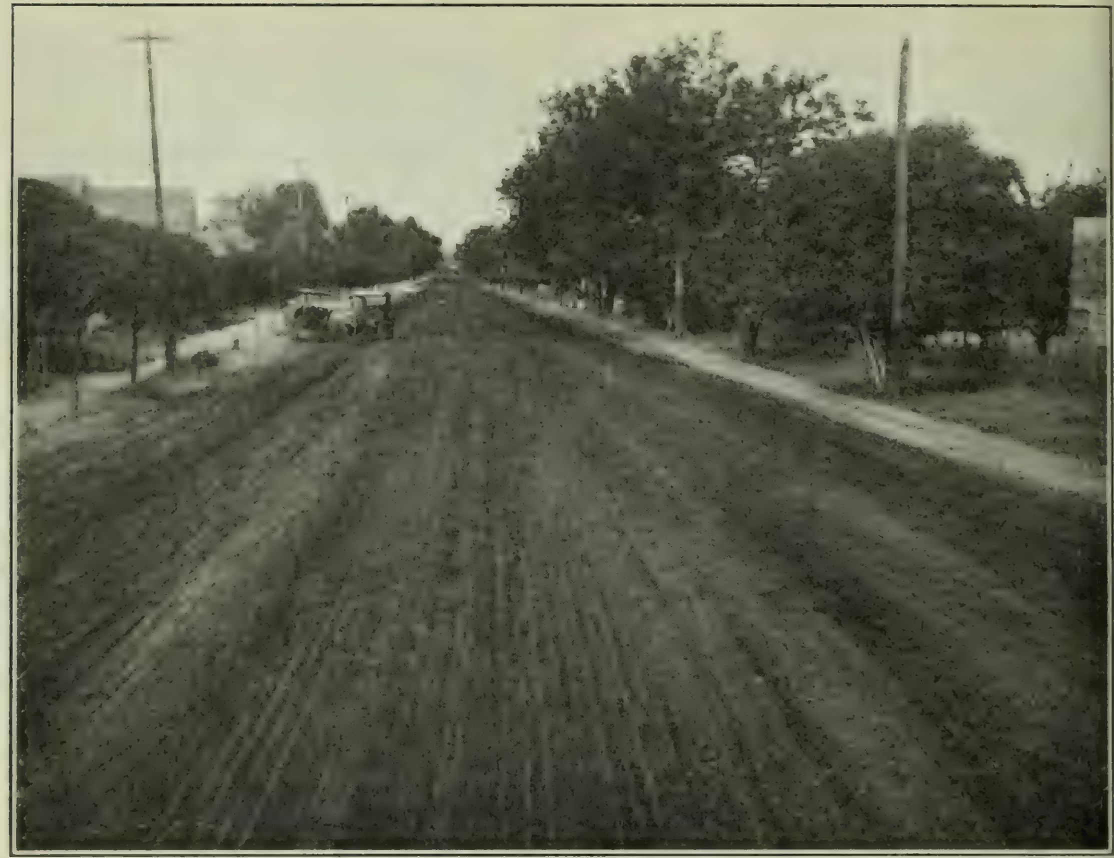
The great trouble with our roads has been the lack of interest of those who were working on the roads, the injection of too much local politics into the work on the roads, and the absolute lack of skill in the conduction of such work. It was necessary to eliminate, as much as possible, these factors before we could expect better results from our road expenditures. Of the 50,000 miles of roads in California, upon which is spent annually, through the counties, three and one half millions of dollars, there has been, to be sure, some permanent construction done, and also some good roadbed built, but there was absolute lack of proper or systematic maintenance of the work, after construction. In this connection, it is safe to say that, no matter how well the road is built, without a proper and efficient system of maintenance it will not stand the wear and tear of traffic and weather. It is, therefore, useless to expend moneys in putting roads into good shape, unless it is proposed that, after their completion, they are to be properly maintained. I do not speak of maintenance in the ordinary sense of the term, but it is meant by maintenance that continuous repair be had, so that at no time the roadway can be called bad. It was absolutely necessary to get some sort of legislation to do away with the totally inefficient methods in connection with our road work, or else we could expect to have nothing but poor roads. The State's great need in this matter was to put the road affairs on a systematic business basis. To inject a system of management that would carry out the work on a highway, similar to the work on a railroad. It was necessary to get rid of the local influences of local politics. It was necessary to have more skilled road men in charge of the work, and it was necessary to employ those men who had an interest in the work they were doing. This last point is very vital to the road problem.

During 1907, the Legislature enacted into law what is known as the Savage act, permitting counties to bond their whole property for road improvement purposes. Again, they so amended the statutory law that even a county can be bonded in its entirety for common road purposes, without following the lines of the Savage act. However, under this act, several of the counties of California have taken advantage of the Savage act, and have bonded to improve their roads. San Diego County bonded for one and a quarter million of dollars; Los Angeles County bonded for three and one-half millions; San Joaquin County bonded for $1,890,000.00. Sacramento County took advantage of the general law, and bonded for $660,000.00 to improve her roads, but did not place the matter in the hands of a commission. The county surveyor and the board of supervisors proceeded to construct the roads for Sacramento County, and there was also an unofficial body, known as an advisory committee, that discussed the matter with the supervisors and the county surveyor. In the other instances the Savage law was followed, and a commission of three members was appointed to carry out the purposes of the bond issue. After these roads are constructed under this act, they are turned over to the board of supervisors for maintenance. I believe in this point, this law is weak, and it is proper that the Legislature at this coming session enact a law to provide for the maintenance of these roads already constructed under the bond issues by the counties, that they may be of long life, and give the service anticipated by the people who are bonded for them. This is of vital importance to the counties where such bond issues are being expended for roads, and I would recommend to the Legislature that the matter be not delayed, but a proper law be provided whereby these roads shall immediately receive efficient and continuous maintenance.

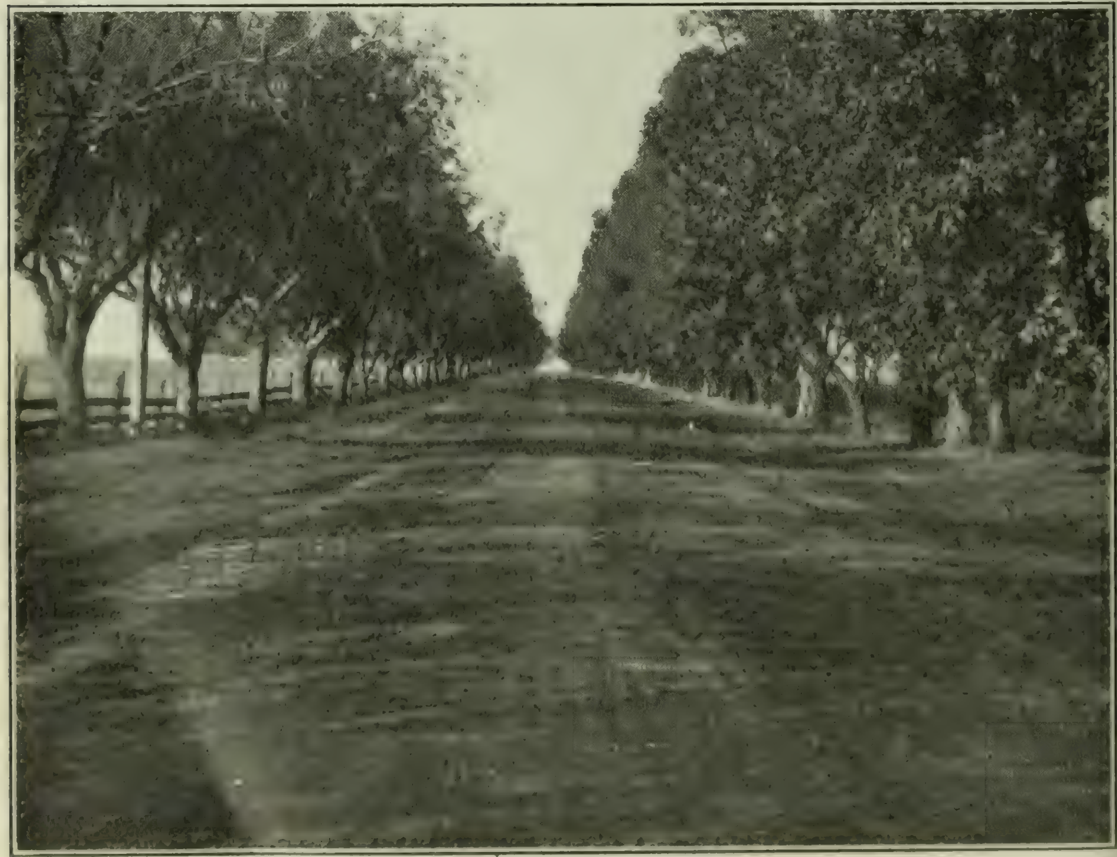
During the last session of the Legislature, a state bond issue act was passed, and brought before the voters at the November election in 1910, that they might determine the question of bonding the State for eighteen millions of dollars, to construct a system of state highways. At this writing, the returns of the election indicate that this bond issue has been approved by the voters of California, and it seems therefore unnecessary to go further into the state aid problem, as we are now placed in the position of eventually having a system of state roads connecting the various county seats of California, which shall be under the complete jurisdiction of the State of California. This means one of the most important factors in the development of our State. It further means that we are in an equal position with the Eastern States that have experimented with an aid law, and found it efficient, and have also concluded that the main highways tying up the county seats should be under the complete jurisdiction of the State. California has now undertaken to have this complete system, and, I presume, to branch out from that later to the question of coöperation. With our State, the problem of getting good roads is now capable of solution, but I wish to advise that this matter be carefully and cautiously gone into, that no mistake may be made, where the citizens of our State will regret the move or step they have taken. It is necessary to organize a force for administrative purposes, that will carry out this work the same as a railroad would carry out its constructive work. The State must provide for a highly efficient system of maintenance in order to get results, and it is necessary that politics be cut out of this problem entirely, and let good business methods prevail. There should be efficient help to carry out this work, and it should be placed in the hands of those who would bend every energy and interest to the success of the proposition. Let that man who thinks that governmental affairs shall pay well for what it gets, be brought up with a round turn, and let this matter be safeguarded thoroughly, so that the results of the expenditure will be satisfactory to the people of this State. There should be no division of authority in the matter, but it should be carried out from one central body, and that body made responsible for the result. Undoubtedly, there would be a great many communities, associations, etc., that would be seeking lines of roads to tap or benefit their particular section, but these matters should be looked at simply from a business point of view, with the idea of building a system for the whole State, and therefore the people of the State. With earnest and sincere endeavor, along the lines indicated above, I believe the problem can be worked out to the benefit of the people of the State of California, and therefore be one of the State's greatest improvements. I have given the subject some serious thought in connection with the subject of maintenance, and, later on, I have suggested a plan of maintenance simply for the purpose of getting, at this session of the Legislature, a scheme of maintenance for these roads, that they may be amply protected after they are constructed. Should this problem be properly solved by this State, and I have no reason to doubt but what it will, and, if carried out along proper lines, there is no question but what the secondary roads of the State—those handled by the counties—will benefit largely by the improved and kept up state roads, which traverse the country in their midst. There is an opportunity now to get a better class of trained men to handle our road business, to cut out local politics, and provide for the administration of road affairs along business lines; in fact, to systematize its business. The State is duty bound to proceed along these lines in this matter. I have included in this report a printed copy of the eighteen million dollar bond issue, that those who desire may study this law, and ascertain its true meaning.

OIL FOR ROADS.

Since the advent of the automobile, it has become necessary to find a binder that holds together the top particles of the road, as against the suction force of the tire of the automobile. In 1899, we began to oil roads in California. To be sure, in a crude manner, but, after the expenditure of some two or three millions of dollars, they are now taking up the subject again upon a more scientific basis, and applying the oil with a much greater degree of satisfaction. Where we have roads, the vehicles upon which were drawn by animal power, the wear came under the cutting of the tires, and the wearing effect caused by the impact of the animals' shoes. With the automobile, the wear comes through the suction force caused by the tires on the wheel. With the automobile, the speed with which the machine travels is a factor in the amount of wear which comes upon a road. However, if we can have a binder in the wearing surface of the roadway, we can then offset the effect of suction caused by a fast moving automobile. Thus we can also partially offset the effect of wear, caused by an animal power



√ Earth Oiled Road, Selma, California.



√ Earth Oiled Road. Proper Maintenance.

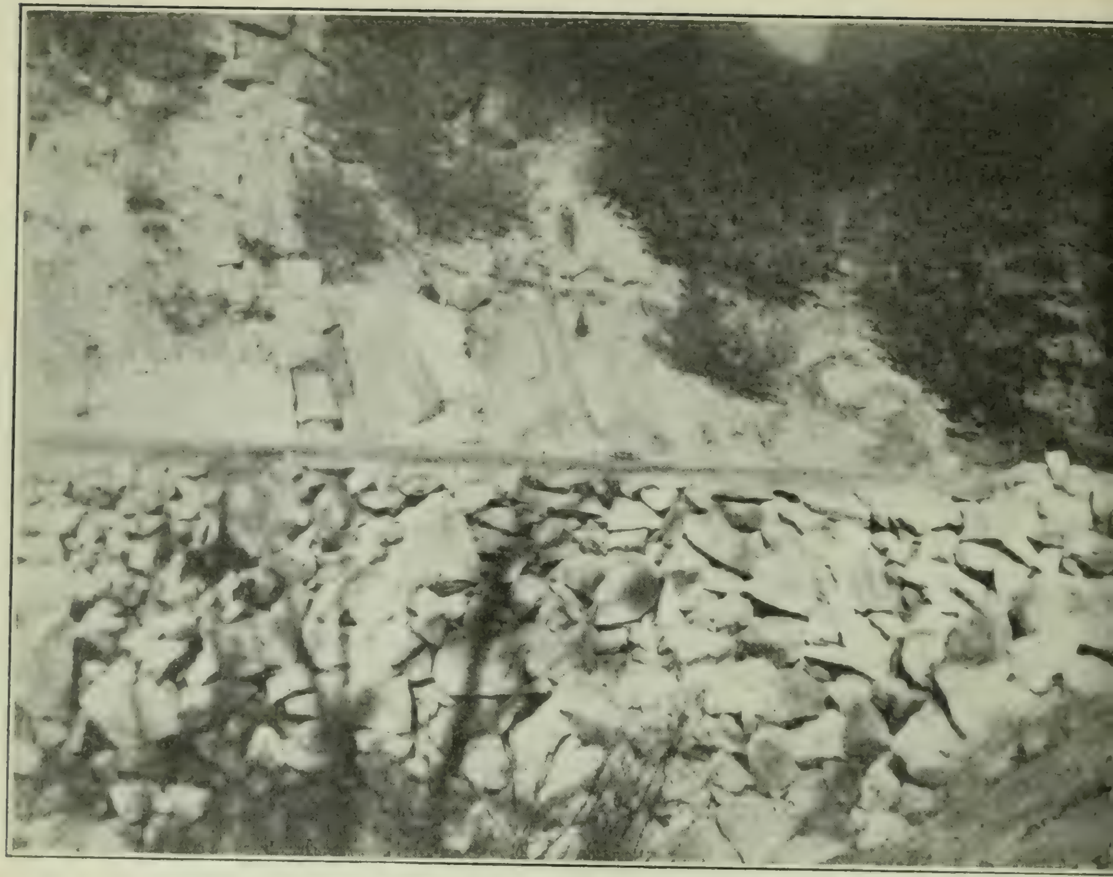
drawn vehicle. It is now recognized that we must have some sort of a bituminous material, as a binder, in order to give life to the road. Oil of a heavy asphaltic nature will give good results, if properly applied, and we can contend with the wear of the automobile by applying oil of this nature to our roadways. It should, however, be handled in the proper manner, and further, an oiled road requires closer attention for maintenance than any other class of road. It, therefore, should be given the best care possible after construction. I believe that a great many of the country roads can be brought to a high degree of efficiency, by the proper handling of oil and earth. If we will but put interest in our road work, we will find that we can have good, cheap, country roads, of smooth surface, dustless, and mudless. In fact, so much so that it will chagrin those who discountenance the use of oil for road purposes. A great many people encounter a soft surface of oil on the road, and condemn oiled roads, in general, on account of improperly giving a particular piece of road sufficient body to keep from retarding the tractive force of a machine or horse. Properly handled, this matter can be reduced to a minimum, and will be scarcely noticeable to the traveler. I have given in this report a couple of views of earth oiled roads, because I believe that a great many of the secondary or district country roads could, if properly handled, be placed in excellent condition by oiling.

PRESENT STATE ROADS.

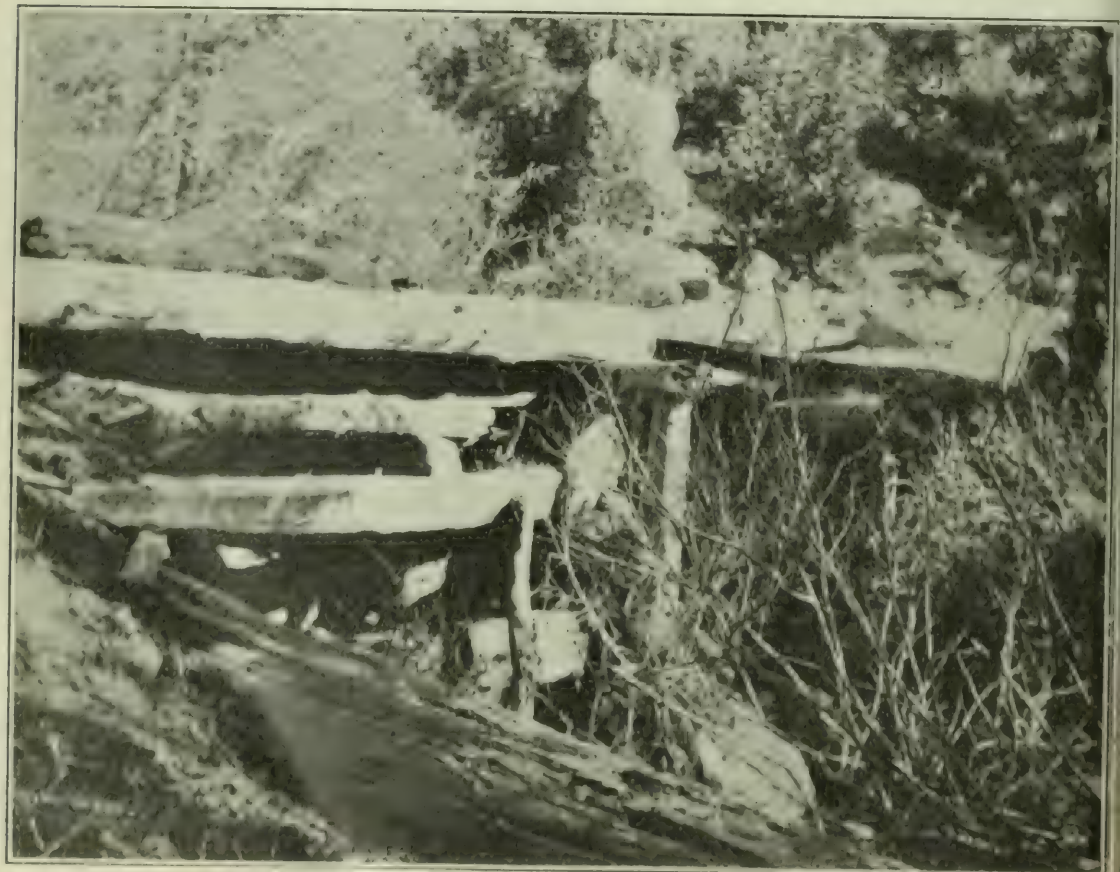
The roads now owned by the State of California are all in the mountainous districts of the State. With the exception of one, the Trinity-Humboldt state road, all of the state highways are in the Sierra Nevadas, and have either been acquired from the counties through which they pass, or been constructed by the State. Those that have been acquired from the counties are of very irregular grade, and usually, at the time the State assumed control, were in an extremely bad state of repair. To date, the State policy has been to construct or maintain roads in counties that were scarcely able to properly maintain long stretches of isolated road. I wish to call to your attention the various roads the State owns, and the needs and necessities for their completion or maintenance.

THE LAKE TAHOE WAGON ROAD.

This road was the first to be acquired by California. It traverses El Dorado County, from near Smith's Flat to the State line at Lake Tahoe. As time goes by, the traffic on this road becomes greater, and, each year, the number of automobiles traveling through the mountains over this highway is greatly increased. The first fourteen miles of this highway is, in the summer time, extremely dusty. At the last session



Fill and New Culvert, Lake Tahoe State Road.



Old Culvert, Lake Tahoe State Road.

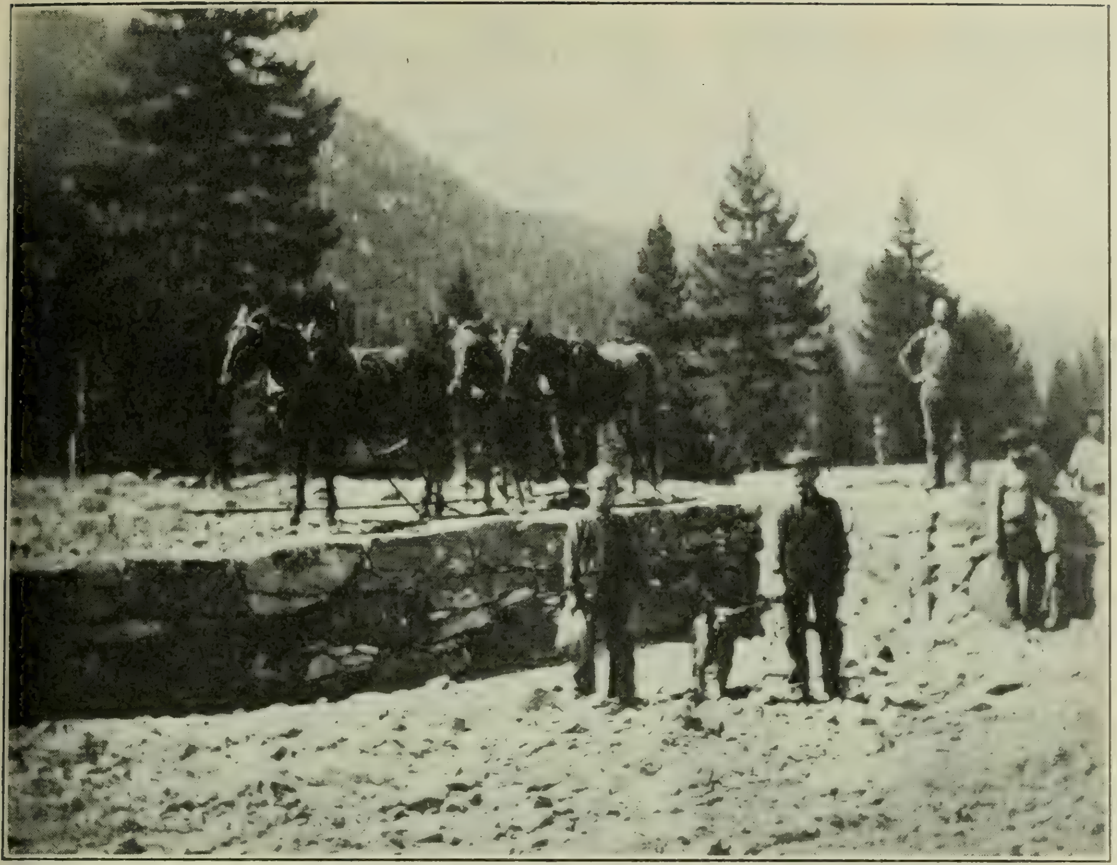
of the Legislature there was appropriated $20,000.00, for the purpose of establishing a sprinkling system, and sprinkling the road for about the first ten or twelve miles. We have, therefore, for the past two years sprinkled this highway from its western end to a place near Bullion Bend, and, to continue this work of sprinkling, there should be included in the general appropriation bill for maintenance, a sufficient amount to cover this expense. It will cost about $3,500.00 per annum. The maintenance fund on this road has been $5,000.00 per annum. This has been applied to keep the road in shape for the summer travel, as, during the winter, over the summit of the Sierra Nevada the road is completely blocked by snow. In the original construction of this road, wooden culverts, brush fills, and wooden bridges were used. As these gave out, it became necessary to put in their place, either the same class of structure, or a permanent affair by which we could eventually reduce the maintenance. In all instances where our funds would permit, we have placed either pipe or stone culverts, and have in some instances put in small concrete bridges. It is the purpose of the Department to carry out this work of placing permanent structures in the place of the old, makeshift affairs, as rapidly as the funds will allow us.

The appropriation of $20,000.00, for sprinkling and erecting a plant therefor, became available in different amounts. On April 1, 1909, the first money became available, and we immediately began erecting stand pipes, securing the right to get water of the ditch company, and purchased two Austin steel sprinkling wagons. On account of the lateness of beginning this work, that year the full benefit was not derived. However, we erected, between Bullion Bend and Smith's Flat, ten stand pipes taking water direct from the ditch, and eight tanks, making in all eighteen supply points for wagons. The year's operation and plant cost $11,132.28. During the year 1910, the facilities for sprinkling were increased by erecting another tank, two tanks with gas engine and pump, and six stand pipes through Camino. These stand pipes were supplied from a large storage tank, connected by 6,300 feet of pipe. The actual sprinkling began May 22d, and ended October 9th, and the cost for labor and water was $3,350.00. Total cost of sprinkling and plant, for this season, was $7,950.27.

Mr. A. S. Lyon, a practical road man, has been employed as superintendent of this road, for a number of years. He lives at Smith's Flat, and is in a position to give the road personal attention, that the work going on may be properly carried out. During 1910, the work of maintenance and repair was begun on March 15th, at the western end of the road. For a stretch of several miles here, we used a grading machine, crowned the road, and, in many places between here and the forty-two mile post, we used the grader to fill up the ruts, and bring the material on the road bed. The Tahoe road is essentially a mountain road, traversing the Sierra Nevadas, and, like other roads in these mountains, is constructed for many miles in a granite region. Its grades, when originally laid out, were in many places steep, and in other places comparatively flat. In early days, this was the usual plan of carrying out a road line. It was then that they thought but little of the maintenance of the road. This lack of uniformity of grade, creates an extra maintenance expense that can never be averted unless the road is changed, or these grades eliminated. From Strawberry on the Tahoe road, over the Summit to Lake Valley, we have the Slippery Ford grade, and the grade over the Summit into Lake Valley, which is difficult of maintenance. We have, however, during the past season, endeavored to bring about a better road bed on these grades by filling in and giving them some crown, that the water may be shed to the side of the road. Again, it is noticed that several bridges on this road are in an extremely bad condition. It will be necessary to construct a bridge at Bridal Veil Falls, and this, to be done properly, will cost about $5,000.00. There are some other minor structures to be replaced, but I believe that the maintenance fund will be able to carry them. It is therefore, recommended that an appropriation be made in the general appropriation bill for $3,500.00 per annum for the sprinkling of the road, and a special appropriation made of $5,000.00 for the construction of a bridge at Bridal Veil Falls.

SONORA AND MONO ROAD.

Gradually, we have been getting this road in such shape that it is now, in summer time, fit for travel. On the eastern end, from Bridgeport to Junction, for seventeen miles, we have a section of the Sonora and Mono road that is easy of maintenance, but when we leave Junction to go to Leavitt Meadows and over the Sonora pass until we reach Baker's Station, there is a section of road, for the most part in solid granite, with very steep grades. From Baker's Station to Long barn, at the western terminus of the road, about one half of this distance is in good soil; the remainder traverses a section through granite rock and boulders. The State has now owned this road for nine years, the first two of which hardly counted, as there was no appropriation made whatever to put it in shape, and, at the time we took possession of it, we found nothing but a gully in many places in the granite sections. We have, therefore, for seven years striven, with the appropriations made, to get the road in such shape that we might get travel across it. As it stands to-day we have about 200 rock and vitrified pipe culverts substantially built and very permanent in character. The main travel on this road is from the Long barn, or western end, and over the Bridgeport or eastern end. The travel over the summit is not comparable to that on the ends of the road. The section from Junction



Rubble Wall on Sonora and Mono State Road.

Patterson Grade, Sonora and Mono Road.

to Bridgeport is one of the main highways leading out of Mono County to the Carson Valley, and the road from Long barn to Baker's Station is used by the people who summer their stock in the mountains, and, recently power companies who have invaded this county are using this section of the road. The particular location of the Sonora and Mono road seems to be in a belt especially liable to the occurrence of great waterspouts. Since this road has been under the jurisdiction of the State we have several times had it torn to pieces, for from a thousand feet to a mile in length. During the last summer about a half mile of the roadway near Leavitt Meadows was almost completely torn out and it therefore necessitated a heavy expense to replace this section of road. This is a matter that can not be figured on, neither can the road be protected aaginst it. In 1909 we completed the bridge number one, on what is known as the lane going from Bridgeport toward Carson Valley. This structure was to be placed in 1908, but the cold weather of that fall prevented it being completed. It was erected, however, under the following conditions:

Work began September 6, 1909, and the bridge was finished September 25, 1909; size, 18 feet clear span, 16 feet roadway, and clear height 4 feet; built of reinforced concrete on concrete abutments:

COST.

Preliminary work and excavation labor	$145 50
28 cubic yards concrete labor	267 50
42 barrels of cement	268 80
4,334 pounds of steel	229 76
Forms, etc.	104 46
Superintendence	92 30
	$1,108 32

On the eastern end of the Sonora and Mono road we now have five reinforced concrete bridges, and a combination bridge over the West Walker near Junction. Special effort has been put forth on this road in an endeavor to drain by ditches, and thus save the roadway. I have instructed all the road men in charge of the roads under the Department that we should fill all gullied out roads, and endeavor to crown them, that they may shed the water. In addition to this, on the Sonora and Mono road, I have ordered that much ditching be done that the water may be conveyed to the side of the road. If the State is to bring the Sonora and Mono road up to a proper plan of maintenance, it should not only allow the appropriation for $6,000.00 per annum, for ordinary maintenance, but should also appropriate about $10,000.00, for the removal of solid rock and the change of grades.

MONO LAKE BASIN ROAD.

In the last general appropriation bill there was appropriated $1,500.00 per annum for the maintenance of this road. This money applies to the first half of the road which was built under contract by Mr. James Touhey. The contract of Mr. John F. O'Brien for the construction of the last five miles five hundred and ninety feet of this road has been materially delayed, and finally, I placed the matter before the people who were on the bond of Mr. O'Brien, to complete this contract. In 1909, they undertook to put the road through to near the head of Tioga Lake, and made it passable for teams that fall. Although I had an inspector in charge of the work, that the bond people might finish it in accordance with the original plans and specifications, they completely ignored the demands of this man, and from a point about a mile from the end of the road they left the survey entirely and undertook to cross the country, on easier ground to work, to a point where the Mono Lake Basin road would join the Tioga road proper. This matter was protested, and upon the solicitation of the inspector, I personally visited the work and gave notice to those in charge that the work as done would not be acceptable. Many endeavors were made to have the road turned over to the State, but I refused, and finally the matter was put before the bond people again for rectification. During 1909 their expenditures on this road were about $18,000.00. In 1910, after two or three attempts to have the bond people complete their work, they finally authorized the reconstruction of a part of the road on what it known as the Sliding Mountain. This had partially been destroyed by poor workmanship, and they replaced the same under a superintendent from my office at an expense of about $1,000.00. If it were not for the snow which blocks this road in the winter it would now be passable, but it is not yet acceptable, and therefore, I am still holding the bond people to complete their work satisfactorily to the State. In connection with the completion of the Mono Lake Basin road, which joins practically the eastern terminus of the Tioga road proper, there should be taken up and determined the question of whether or not the Tioga road belongs to the Federal Government, and whether or not, if it does, the Yosemite Park authorities are going to expend money upon its repair and maintenance, that it may be traveled. Little work has been done on the Tioga road, and therefore it is in bad shape. The people who desire to go through the mountains in the summer, either from Mono westerly or from the San Joaquin Valley easterly, will be badly handicapped in crossing this route unless money is expended in the repair of this road. Since the acceptance of the lower end of the Mono Lake Basin road we have applied the maintenance money with excellent results. A new road constructed on the side of the mountain, in soil such as that of the Levining Canyon, requires great attention, as there are constantly rolling into the road, boulders and rocks. The maintenance fund has permitted us to keep this section of the road clear, until it is now practically settled in the movement of this upper bank. Undoubtedly we shall have on our hands the coming summer the whole of this road, when it will be necessary to maintain it over its entire length. For this reason it is recommended that the annual appropriation for maintenance on the Mono Lake Basin road be increased from $1,500.00 to $3,000.00 per annum.

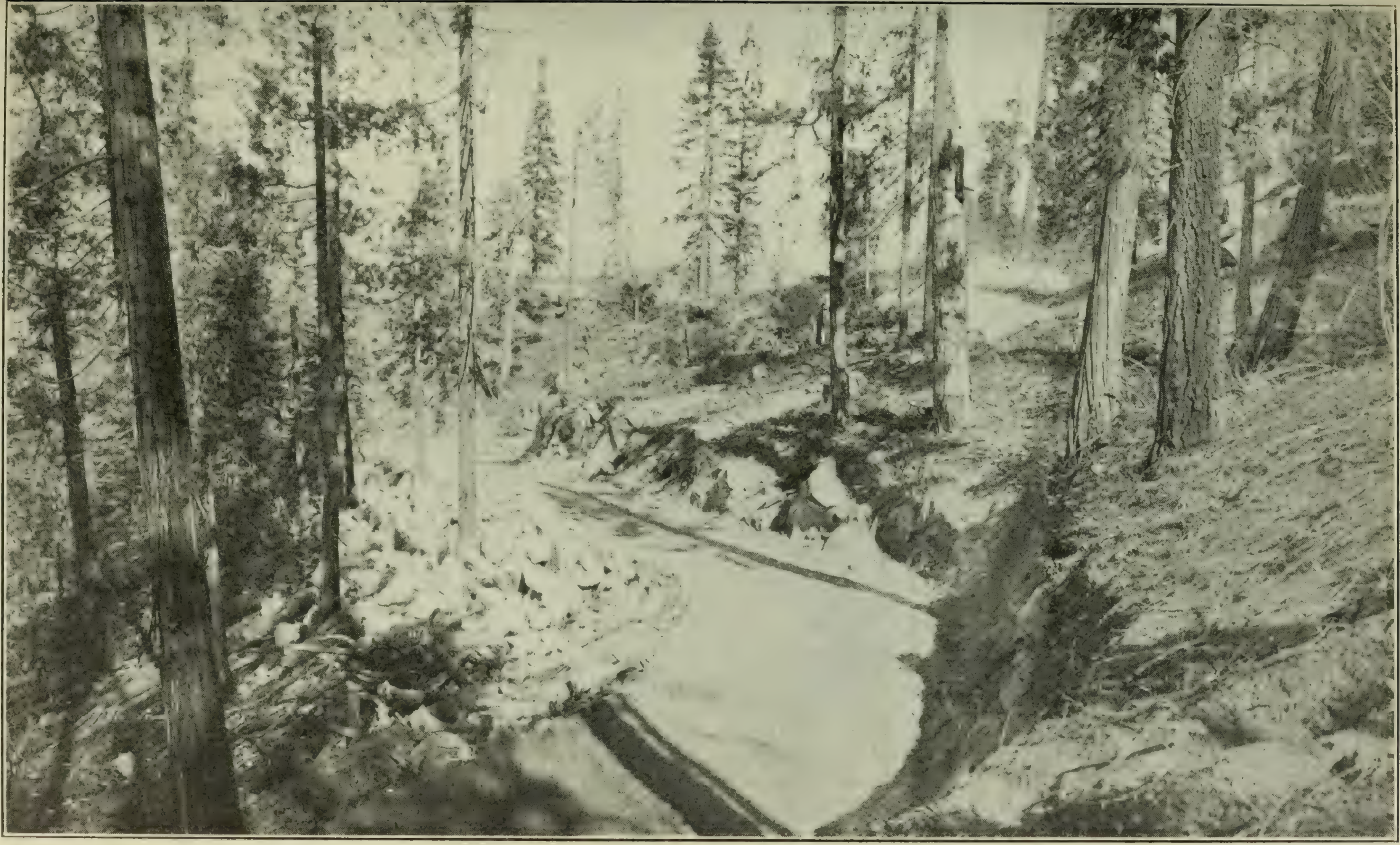
TABLE OF COST.

Mono Lake Basin Road, by Bond Company.

	1909.			1910.		
	Cost.	Amount work done.	Unit cost.	Cost.	Amount work done.	Unit cost cu. yd.
Pick and shovel work	$5,776 38	7,368	$0.785			
Solid rock work	8,325 54	3,968	2 10			
Wall work	2,450 20	1,673½	1 46	$678 50	522	$1 30
Culvert work	532 36					
Clearing work	121 79	2 A.	60 90			
Total	$17,206 27	3.03 miles	of road.			

KING RIVER CANYON ROAD.

It was during 1906, that a survey of the first twenty miles of this road was completed, to a point near Horseshoe Bend, on the south fork of the Kings River. In 1907, the survey was completed to the flat near the Cedar Grove Hotel, in the floor of the Kings River Canyon. This survey was 32.8 miles in length, from the General Grant National Park, and was made through a most difficult country. In places, it became necessary to spend money for trails, that we might get supplies and provisions to the men on the survey. Solid cliffs of granite, and the extremely rough territory in which the men worked, made the survey expensive. To complete the work of surveying alone, on this route, cost $6,032.94. Originally, there was considerable discussion as to the location of this highway, but, as it was to be purely a scenic road, I believed that it should travel, or traverse, the country where the scenery exists. During the year 1907, I sent Mr. M. P. Ormbsy to the General Grant National Park, to have charge of the work of construction of this road. He continued the work, during that year, to within a half mile of the summit of the ridge, between Ten-mile Creek and Millwood. The following year, Mr. H. F. Hill took charge of the work, and continued the construction, until about five and a quarter miles of roadway had been built. It was this year that we furnished Mr. Hill with Burleigh drills, and a steam shovel, to continue the work of construction. After leaving the ridge or summit, whence the road gradually descended into Ten-mile, it was found that, beneath the surface of the ground, we encountered either solid rock or granite boulders. This made construction difficult and expensive, but we have continued along the line of the road, until we have it now completed



Kings River Canyon Road, Showing Rock Beneath Earth.

to Ten-mile, or Hume. There we are temporarily held, on account of the bridge location on Ten-mile Creek. During the last year of the work, around some of the rocky places on the hillside of Indian Creek, we were compelled to make fills as high as eighty feet, in order to get around and through the solid rock, but, at these particular places on the road, there is one of the greatest views in the whole Sierra Nevada Mountains. One may look east into Kings River Canyon, north into Tehipite and also see for miles down the main canyon toward the west. This is but the first scenic point on the road. There are several other places of equal interest to the sightseer.

I wish to call particular attention in this report, to the matter of expense in constructing mountain highways in the Sierra Nevadas, where all provisions and supplies are high of cost, and difficult to obtain, and where it is extremely difficult to hold labor after about the first of November, on account of the snow. If roads of this character are to follow the proper grades and alignments, and to be constructed along lines whereby they can be termed good roads, it becomes necessary to expend sufficient money to cut the solid rock thoroughly, make the fills of rock and earth, put in culverts and walls of stone, and eliminate all materials of an unlasting nature. To construct the Kings River Canyon road along this line, is an expensive undertaking, but it can not be done at a figure below that already accomplished, for the class of work we have been through. We have but to view the work done on the Mono Lake Basin road, through solid granite and boulders, and earth and boulders, and note its cost, and take any other road where we are constructing along the lines of a good road, and you will have a cost to fully equal that of the Kings River Canyon road. If we were to construct the state highways without any grade, but to follow the contour of the ground, missing a rock here and there, and go around a ledge by dipping beneath it, or miss a large tree here, we could cheapen the cost of construction, but we would also greatly increase the cost of maintenance. We have this sort of road in the Sonora and Mono state highway, which cost nearly $400,000.00 for its construction. It was suggested that we endeavor to receive bids on a part of the Kings River Canyon road. I advertised for this purpose, and received but one bid, from a man in Santa Cruz. I give here the length of road, character of ground, and the bid as received: The section of road advertised for was three miles in length, and extended from near Hume, easterly from station 494, plus 25, to station 652, plus 65, on the survey. The bid was $18,500.00 for this section, consisting of 8,000 feet of earth, 6,000 feet of rock and earth, 1,700 feet solid rock, and 140 feet of boulders. This bid was about thirty per cent higher than the work we are now doing on the same highway, and was, therefore, rejected. After crossing Ten-mile Creek there will be some rock work, and then, for some four or five miles, the work will be considerably of earth. When we secure the completion near Redwood Creek, we will again strike rock, and then, after crossing Redwood Creek, will have about two miles of earth work. We will encounter some rock in the crossing near the mouth of Boulder Creek, and also between Boulder Creek and Grizzly Creek. When this highway is completed, it will give to California one of the great scenic routes of the State, and, I believe, will amply repay the State for its construction. The crossing on Ten-mile Creek was originally to be selected across the dam built by the Hume-Bennett Lumber Company, but since the construction of this dam, and the building of the mill at this point, there is no place for a crossing. However, the State holds a deed from this company for the right to cross, and we, therefore, hope to adjust this matter in the early spring, satisfactorily to the State. Below is given a table of the amount of the different materials that have been moved on the Kings River Canyon road and the cost of the same. It is recommended that the Legislature appropriate $40,000.00 to continue the work of constructing this road. The State has the steam shovel on hand, worth to this road $4,400.00, and $1,600.00 worth of tools and equipment. There has been constructed about 9.25 miles of road to date.

Table of Cost on Kings River Canyon Road.

	1909.			1910.		
	Cost.	Amount work done.	Unit cost.	Cost.	Amount work done.	Unit cost cu. yd.
Steam shovel	$9,626 63	25,509	$0.378	$5,434 63	10,356	$0.524
Plow and scraper						
Pick and shovel	1,933 18	3,368	.568	994 55	1,519	.655
Solid rock	3,699 27	1,917	1.91	3,788 91	1,957	1.93
Wall work	247 52	134	1.87	25 03	36.5	.68
Culverts	674 27			509 24		
Ditches						
Clearing	713 00	Acres 7.6	93.90	188 49	Acres 1.89	99.25

SIERRA STATE ROAD.

The last session of the Legislature failed to appropriate any money to continue the construction of the road from Downieville to Mount Pleasant. Originally there was appropriated $12,000.00 for the survey, location and construction of this highway. We obtained the rights of way from a survey that we made and constructed 2.9 miles of the roadway. The $12,000.00 originally appropriated for this work was totally inadequate, and if it is expected to continue with this road as established by statute in 1907, it will require the expenditure of about $35,000.00 to complete the work of survey and the work of construction.

TRINITY-TEHAMA-SHASTA-HUMBOLDT ROAD.

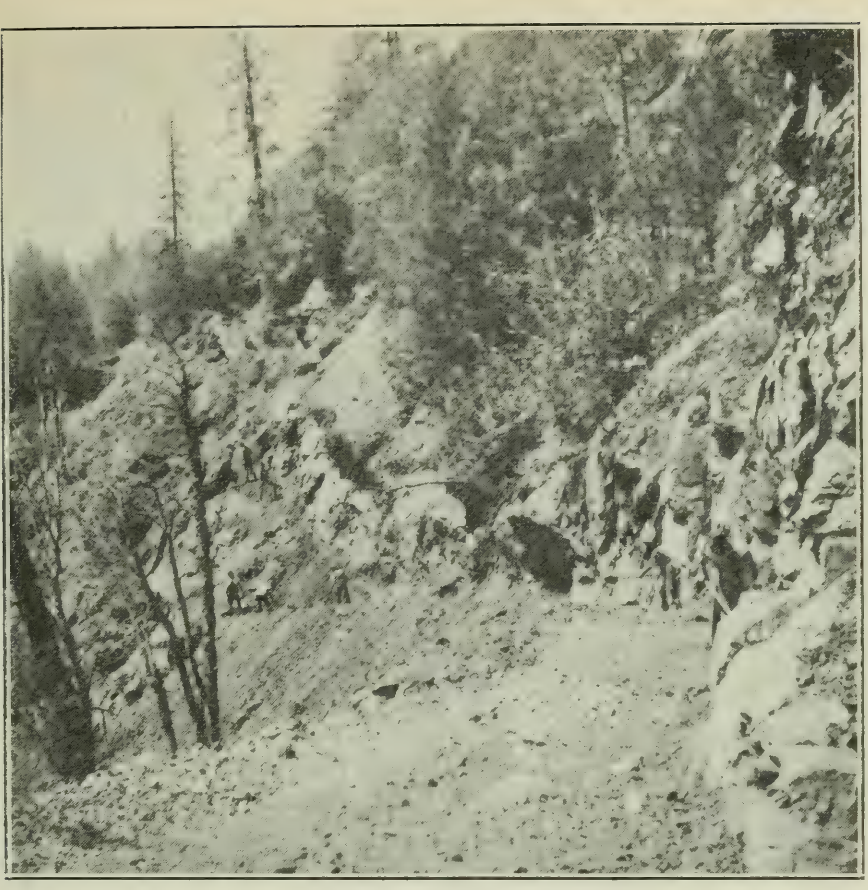
In the report of 1908 a detailed statement of the selection of the route through Trinity County for the location of this road was given. The matter was gone into thoroughly enough to determine a selection that would be best suited for the State's purposes. During the spring of 1909 I sent Mr. J. E. Mitchell to Peanut, Trinity County, to have charge of the construction of this work. He was instructed to begin work near Salt Creek and continue to build the road over the south fork of the Trinity River. During 1909 he worked until November 6th, when the rains and snows made it impossible for him to hold labor that he might continue this work. During this year he worked five and one-half months and employed on the average forty men in the construction of this road. The work was mostly through a timbered country and the grading was principally in earth. The following table gives the amount of material handled and the cost of the same:

Table of Cost on Trinity-Humboldt Road.

	1909.		
	Total amount in money.	Amount work done.	Cost per unit, cu. yd.
Plow and scraper	$355 82	2,845	$0.125
Pick and shovel	8,253 18	23,455	.352
Solid rock	5,740 42	6,166	.930
Wall work	781 30	124	6.30
Culverts	142 43		
Ditches	39 44		
Clearing	1,314 00	acres 22.56	62.80
	$16,626 59	8.08 miles.	$2,057.87

Table of Cost on Trinity-Humboldt Road.

	1910.		
	Total amount in money.	Amount work done.	Cost per unit.
Plow and scraper	$23 33	75	$0.31
Pick and shovel	5,573 04	19.010	0.293
Solid rock	11,657 44	17.223	0.677
Wall work	400 87	65.5	6.20
Culverts	878 27		
Ditches	80 97		
Clearing	1,575 38	15.7 acres.	100.00
	$20,189 08	4.56 miles.	$4,427.41



Trinity State Road.

Trinity State Road.

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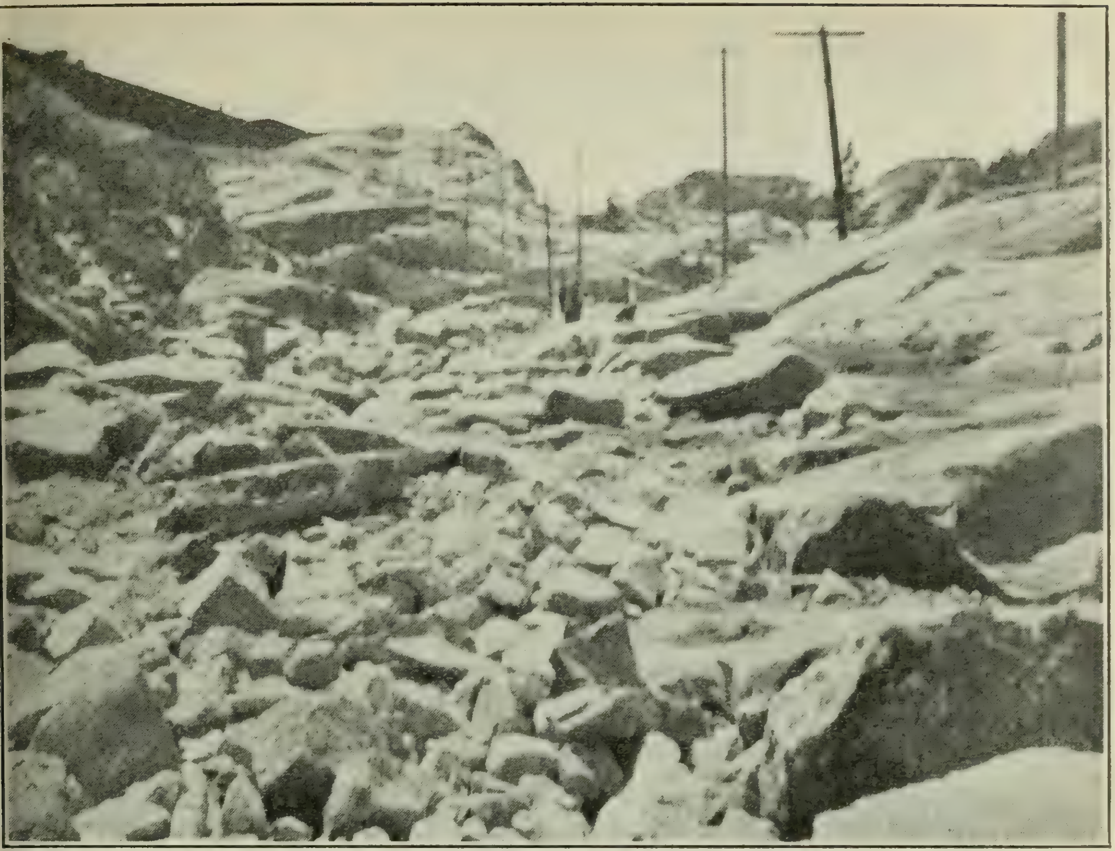
During 1910 Mr. Mitchell began the work of construction on May 2, and proceeded with the work until October 16, when he succeeded in building about thirteen and one-third miles of road. Mr. Mitchell requested that I furnish him with steam drills and a plain boiler on wheels, that he might cheapen the cost of construction along what is known as Rattlesnake Creek. The work along this particular creek is the most difficult on the whole route, and was the one expensive feature at the time of the selection of this route. Some views are given to show the character of the country through which the road passes. I herewith give a table of the amount and kinds of material handled during the year 1910, and the cost of the same.

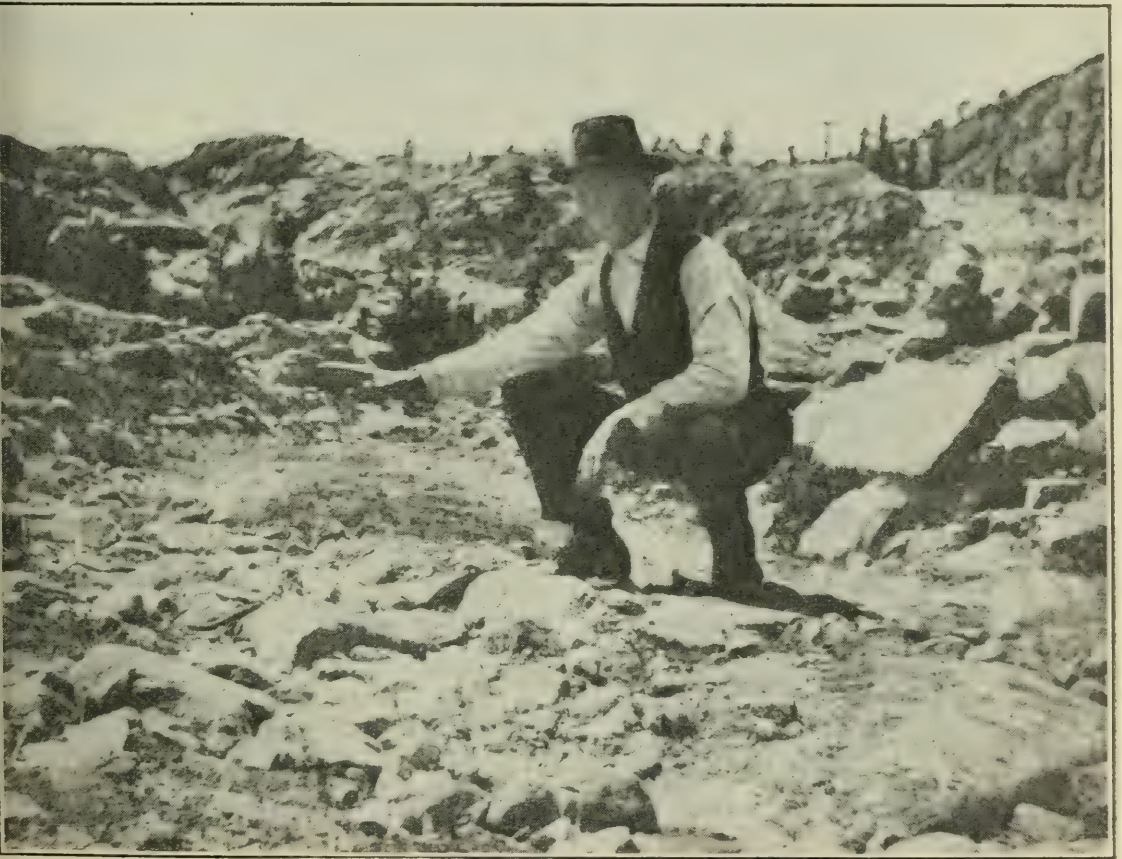
The progress of the work on this road has been very satisfactory, and early next year the road should be through, that one may drive to the south fork of the Trinity River. Here it will be necessary to span this stream with a hundred foot structure, when we shall ascend South Fork Mountain to its summit then descend to the Low Gap of Mad River where it will require another bridge of about a hundred foot span. The grade on this road in no place will exceed six per cent, and it will have a twelve foot roadway and be given ample turnouts of about eighteen feet in width. When it is completed it will give a through wagon road between the Upper Sacramento Valley and Humboldt Bay. On either end of this line, however, the county roads are not of the best. On the east end, going up Salt Creek, the road is very poorly located and constructed. On the other hand, on the west end of the road for some distance beyond the Low Gap of Mad River, the road is of very poor location and construction. However, I believe these can be remedied after the State gets its section of road through from Peanut, thirty miles to the Low Gap of Mad River. Included herewith is given a table of the expenditures on this road and the balance remaining in the fund. It is recommended that $50,000.00 be appropriated for the completion of this state highway.

EMIGRANT GAP-DONNER LAKE STATE ROAD.

At the last session of the Legislature there was appropriated $15,000.00 for the repair and care of the Donner Lake road from Emigrant Gap to the west end of Donner Lake. This road was acquired from the counties through which it passed by act of the Legislature, and, at the time the State took it, was in such abominable condition that you could scarcely call it a road. I present in this report a couple of views of its condition at the time the State received it, that the reader may see with what we have had to contend in our endeavors to upbuild the state roads taken over from the counties. During 1909 I employed Mr. George W. Kimble, an engineer, to repair this road and make it



Emigrant Gap Road When Taken by State.



Showing Height to Fill Emigrant Gap Road.

passable for vehicles. He began work on July 15, 1909, and finished on October 20, 1909, doing what work he could to put the road in such shape that it could be traveled. During this time he expended $6,546.73. In 1910, I appointed Mr. M. P. Ormsby superintendent of the work on the road, and later had him assisted by Mr. F. W. Whitten. My instructions to them were to in the first place make the road passable, and then expend the remainder of the money in putting the road in such shape that it would resist the erosion of the water from the melting snows. This highway traverses the summit of the Sierra Nevadas, and in numerous instances passes through the snow sheds of the Southern Pacific railroad. It had not been drained and the numerous grades in it permitted the water to gully it out until for miles it looked like a pile of rocks. Mr Ormsby undertook to remedy the bad conditions in the surface of the road, and, considering the condition it was in when the state obtained it, and for the amount of money expended, he made a remarkable transformation in the road surface. Of course it is an illy laid out or located road, and one difficult of remedy without the expenditure of a great deal of money. However, the present road beds, with some few slight changes of grade, can be maintained after it has gotten to the point where it is properly graded up and crowned. New culverts are necessary, as, while the road was under the counties' charge, the old culverts were allowed to run down until they were absolutely of no value. At one point on this road, where a very steep grade continues directly into a snow shed, there should be enough money appropriated to cut out this grade and bring the road around through the solid rock to a point where finally it might enter the snow shed on a level grade. This would avoid a very dangerous point on the road. It is recommended to the Legislature that there be appropriated a maintenance fund of $6,000.00 for its repair and upkeep.

ALTURAS AND CEDARVILLE ROAD.

This road is completely under county charge, but the State had undertaken to assist in improving it to the extent of bettering the alignment, roadbed, and reducing the grades. It was the old familiar county road, with no attention paid to grades or roadbed during its location. The work of the State was to remedy some of these defects. A good part of the roadbed is over adobe soil, and consequently it required treatment to prevent a vehicle in the winter time from sinking out of sight. After the 1909 session of the Legislature there was remaining about $4,875.00. This money was therefore expended in filling with gravel over adobe, putting in culverts, and building some walls. The following list gives the amount spent during 1909.

COST.

3,686 cubic yards material hauled on road at 81 cents	$3,608 72
4,130 square feet wall built at $1.00 per cubic yard	153 05
Culverts	256 91
Total cost	$4,018 68

In connection with the state road work, I have always endeavored to make at least one trip a year over each road, and if possible, to make two trips. In this way one can better keep in touch with the foremen and superintendents who have charge of the road, and I believe get better results. As California's roads to date are located in the mountains, the Department has had to contend with heavy expenses in connection with all provisions and supplies that are furnished the roads. In some instances freight ran as high as two cents per pound by wagon, thus bringing up the cost of working these roads quite considerably. The State should, I think, provide ample maintenance, however, for them, as, in most instances, they serve to allow the people to transport their freights through sections of country where no railroad exists.

Herewith is presented the state highway act as passed by the people on November 8, 1910, and also a tentative maintenance road law:

THE STATE HIGHWAY ACT.

Section 1. A system of state highways in and for the State of California shall be constructed and acquired as and in the manner provided by law by the department of engineering of said state at a cost not to exceed eighteen million dollars. For the purpose of providing for the payment of the cost of the construction or acquisition of said system of said highways, the State of California is hereby authorized to incur an indebtedness in the manner provided by this act in the sum of eighteen million dollars.

Immediately after the issuance of the proclamation of the governor, as provided in section 11 of this act, the treasurer of the state shall prepare eighteen thousand suitable bonds of the State of California in the denomination of one thousand dollars each, to be numbered from 1 to 18,000 inclusive, and to bear the date of the third day of July, 1911. The total issue of said bonds shall not exceed the sum of eighteen million dollars and they shall bear interest at the rate of four per cent per annum from the date of issuance thereof. The said bonds and the interest thereon shall be payable in gold coin of the United States of the present standard of value at the office of the treasurer of said state at the times and in the manner following, to wit: The first four hundred of said bonds shall be due and payable on the third day of July, 1917, and four hundred of said bonds in consecutive numerical order shall be due and payable on the third day of July in each and every year thereafter until and including the third day of July, 1961. The interest accruing on all of said bonds that shall be sold shall be payable at the office of the treasurer of the state on the third day of January and the third day of July of each and every year after the sale of the same. The interest on all bonds issued and sold shall cease on the day of their maturity and the said bonds so issued and sold shall on the day of their maturity be paid as herein provided and canceled by the treasurer of said state. All bonds remaining unsold shall, at the date of the maturity thereof be by the treasurer of the state canceled and destroyed. All bonds issued pursuant to the provisions of this act shall be signed by the governor of this state, countersigned by the state controller and endorsed by the state treasurer, and the said bonds shall be so signed, countersigned and endorsed by the officers who are in office on the third day of July, 1911, and each of said bonds shall have the great seal of the

State of California impressed thereon. The said bonds signed, countersigned, endorsed and sealed as herein provided, when sold, shall be and constitute a valid and binding obligation upon the State of California, though the sale thereof be made at a date or dates after the person so signing, countersigning and endorsing, or either of them, shall have ceased to be the incumbents of said office or offices.

SEC. 2. Appended to each of said bonds there shall be interest coupons so attached that the same may be detached without injury to or mutilation of said bond. The said coupons shall be consecutively numbered and shall bear the lithographed signature of the state treasurer who shall be in office on the third day of July, 1911. No interest shall be paid on any of said bonds for such time as may intervene between the date of said bond and the day of sale thereof, unless such accrued interest shall have been, by the purchaser of said bond, paid to the state at the time of such sale.

SEC. 3. There shall be provided in the general appropriation bill sufficient money to defray all expenses that shall be incurred by the state treasurer in the preparation of said bonds and in the advertising of the sale thereof, as in this act provided.

SEC. 4. When the bonds authorized by this act to be issued shall have been signed, countersigned, endorsed and sealed as in section one provided, the state treasurer shall sell the same in such parcels and numbers as the governor of the state shall direct, to the highest bidder for cash. The governor of the state shall issue to the state treasurer such direction immediately after being requested so to do, through and by a resolution duly adopted and passed by a majority vote of the advisory board of the department of engineering. Said resolution shall specify the amount of money which, in the judgment of said advisory board shall be required at such time and the governor of the state shall direct the state treasurer to sell such number of said bonds as may be required to raise said amount of money and that said bonds shall be sold in consecutive numerical order commencing with the first four hundred thereof. The state treasurer shall not accept any bid which is less than the par value of the bond plus the interest which has accrued thereon between the date of sale and the last preceding interest maturity date. The state treasurer may at the time and place fixed by him for said sale continue such sale as to the whole or any part of the bonds offered to such time and place as he may at the time of such continuance designate. Before offering any of said bonds for sale, the said treasurer shall detach therefrom all coupons which have matured or will mature before the date fixed for such sale. The state treasurer shall give notice of the time and place of sale by publication in two newspapers published in the city and county of San Francisco and in one newspaper published in the city of Oakland, and in one newspaper published in the city of Los Angeles and in one newspaper published in the city of Sacramento once a week for four weeks next preceding the date fixed for such sale. In addition to the notice last above provided for, the state treasurer may give such further notice as he may deem advisable, but the expenses and cost of such additional notice shall not exceed the sum of five hundred dollars for each sale so advertised.

There is hereby created in and for the state treasury a fund to be known and designated as the "State Highway Fund," and immediately after such sale of bonds, the treasurer of the state shall pay into the state treasury and cause to be placed in said state highway fund the total amount received for said bonds, except such amount as may have been paid as accrued interest thereon. The amount that shall have been paid at such sale as accrued interest on the bonds sold shall be by the treasurer of the state, immediately after such sale, paid into the treasury of the state and placed in the interest and sinking fund.

The moneys placed in the state highway fund, pursuant to the provisions of this section, shall be used exclusively for the acquisition of rights of way for and the acquisition and construction of said system of state highways. The route or routes of said state highways shall be selected by the department of engineering and said route shall be so selected and said highways so laid out and constructed or acquired as to constitute a continuous and connected state highway system running north and south through the state traversing the Sacramento and San Joaquin valleys and along the Pacific coast by the most direct and practicable routes, connecting the county seats of the several counties through which it passes and joining the centers of population, together with such branch roads as may be necessary to connect therewith the several county seats lying east and west of such state highway.

Moneys shall be drawn from said state highway fund for the purposes of this act upon warrants duly drawn by the controller of the state upon demands made by the department of engineering and audited by the state board of examiners.

Sec. 5. There is hereby appropriated from the general fund in the state treasury such sum annually as will be necessary to pay the principal of and the interest on the bonds, issued and sold pursuant to the provisions of this act, as said principal and interest becomes due and payable.

There shall be collected annually in the same manner and at the same time as other state revenue is collected such a sum, in addition to the ordinary revenues of the state as shall be required to pay the principal and interest on said bonds as herein provided, and it is hereby made the duty of all officers charged by law with any duty in regard to the collection of said revenue, to do and perform each and every act which shall be necessary to collect such additional sum.

The treasurer of the state shall, on the first day of January, 1912, and on the first day of each July and the first day of each January thereafter transfer from the general fund of the state treasury to the interest and sinking fund such an amount of the money by this act appropriated as shall be required to pay the interest on the bonds theretofore sold, until the interest on all of said bonds so sold shall have been paid or shall have become due in accordance with the provisions of this act.

There is hereby created in the state treasury a fund to be known and designated as the "State Highway and Sinking Fund." The treasurer of the state shall on the first day of July of the year 1917, and on the first day of July, of each and every year thereafter in which a parcel of the bonds sold pursuant to the provisions of this act shall become due, transfer from the general fund of the state treasury to the said state highway sinking fund such an amount of the moneys appropriated by this act as may be required to pay the principal of the bonds so becoming due and payable in such years.

Sec. 6. The principal of all of said bonds sold shall be paid at the time the same becomes due, from the state highway sinking fund, and the interest on all bonds sold shall be paid at the time said interest becomes due, from the interest and sinking fund. Both principal and interest shall be so paid upon warrants duly drawn by the controller of the state upon demands audited by the state board of examiners, and the faith of the State of California is hereby pledged for the payment of the principal of said bonds so sold, and the interest accruing thereon.

Sec. 7. The state controller and state treasurer shall keep full and particular account and record of all their proceedings under this act and they shall transmit to the governor in triplicate an abstract of all such proceedings thereunder with an annual report in triplicate, one copy of each to be by the governor, laid before each house of the legislature biennially. All books and papers pertaining to the matter provided for in this act shall, at all times, be open to the inspection of any party interested, or the governor, or the attorney general, or a committee of either branch of the legislature or a joint committee of both or any citizen of the state.

Sec. 8. The highway constructed or acquired under the provisions of this act shall be permanent in character and be finished with oil or macadam or a combination of both, or of such other material as in the judgment of the said department of engineering shall be most suitable and best adapted to the particular locality traversed. The state department of engineering, in the name of the people of the State of California, may purchase, receive by donation or dedication, or lease any right of way, rock quarry or land necessary or proper for the construction, use or maintenance of said state highway and shall proceed, if necessary, to condemn under the provisions of the Code of Civil Procedure relating to such proceedings any necessary or proper right of way, rock quarry or land. The department of engineering shall have full power and authority to purchase all supplies, material, machinery and to do all other things necessary or proper in the construction and maintenance of said state highway. With the exception of those public highways which have been permanently improved under the county or permanent road division bond issues within three years prior to the adoption of this act; all public highways within this state lying within the right of way of said state highway as determined and adopted by the department of engineering shall be and the same shall become a part of the right of way of said state highway, without compensation being paid therefor; provided nothing herein contained shall require the state to maintain any highway along or on said right of way, prior to the completion or acquisition of the permanent improvements contemplated by this act. Whenever any money received from the sale of bonds, under the provisions of this act, shall be expended in any county in this state, such county must pay into the state treasury such sum each year as shall equal the interest, at the rate of four per cent per annum, upon the entire sum of money expended within such county in the construction of said state highway, less such portion of said amount expended as the bonds matured under the provisions of this act, shall bear to the total number of bonds sold and outstanding. All highways constructed or acquired under the provisions of this act shall be permanently maintained and controlled by the State of California.

Sec. 9. This act, if adopted by the people, shall take effect on the thirty-first day of December, 1910, as to all its provisions except those relating to, and necessary for its submission to the people and for returning, canvassing and proclaiming the votes, and to such accepted provisions this act shall take effect immediately.

Sec. 10. This act shall be submitted to the people of the State of California for their ratification at the next general election to be holden in the month of November, 1910, A. D., and all ballots at said election shall have printed thereon, and at the end thereof, the words "For the state highway act"; and in a separate line, under the same, the words, "Against the state highway act." Opposite said lines there shall be left spaces in which the voters may make or stamp a cross to indicate whether they vote for or against said act, and those voting for said act shall do so by placing a cross opposite the words "For the state highway act," and all those voting against the said act shall do so by placing a cross opposite the words "Against the state highway act." The governor of this state shall include the submission of this act to the people, as aforesaid, in his proclamation calling for said general election.

Sec. 11. The votes cast for or against this act shall be counted, returned and canvassed and declared in the same manner and subject to the same rules as votes cast for state officers, and if it appears that said act shall have received a majority of all the votes cast for and against it at such election, as aforesaid, then the same shall have effect as hereinbefore provided and shall be irrepealable until the principal and interest of the liabilities herein created shall be paid and discharged, and the governor shall make proclamation thereof. But if a majority of the votes cast, as aforesaid, are against this act then the same shall be and become void.

Sec. 12. It shall be the duty of the secretary of state to have this act published in at least one newspaper in each county, or city and county, if one be published therein, throughout this state, for three months next preceding the general election to be holden in the month of November, A. D. nineteen hundred and ten; the cost of publication shall be paid out of the general fund, on controller's warrants duly drawn for the purpose.

Sec. 13. This act shall be known and cited as the "state highways act."

Sec. 14. All acts and parts of acts in conflict with the provisions of this act are hereby repealed.

An Act to Provide for a System of Maintenance for All State Highways Under the Jurisdiction of the State of California, and Making an Appropriation Therefor.

The people of the State of California, represented in the senate and assembly, do enact as follows:

Section 1. Any state highway now constructed or to be constructed under any law providing for a state highway system or for any state highway shall be maintained through the department of engineering of the State of California. Whenever any section of any state highway is constructed it shall be the duty of said department to immediately proceed to maintain said section of such highway. After the completion of this section it becomes the duty of the state engineer to amply provide for the maintenance of this state highway within five days of said completion.

Sec. 2. For the purpose of carrying out a system of maintenance the state department of engineering shall organize to properly care for and maintain the state highways upon a continuous basis of repairs. At the discretion of the advisory board of the department of engineering, the state engineer is hereby permitted to district the state highways into sections which said advisory board deem of proper length and location, and to appoint district engineers to have charge of such districts. The salaries of the said engineers shall be fixed by said advisory board.

SEC. 3. Each district shall be divided into sections and these sections shall be under the charge of road foremen. All road men within one district shall be under one district engineer. The sectionization of the districts shall receive the approval of the advisory board and any man appointed to such position shall be experienced in road work, and he shall be subject to the orders of the district engineer. It shall be the duty of each road man to travel his section of road each and every day in the year, Sundays and holidays excepted. It shall be further the duty of the said road man to keep his road in proper state of repairs, and to have in close proximity to his road section, materials with which to repair any defect of his road. All road men are required to make a daily report to the district engineer on the condition of his section giving full account of all transactions.

SEC. 4. The district engineer shall have complete charge of the road men in his district, all district engineers shall apply to the department of engineering upon blank requisitions furnished him for road materials or other material necessary for the performance of his duty, the department of engineering may either purchase such material or if it appears advisable may issue notice to such district engineer to make such purchases allowed. He shall also keep on the ground for disbursement to road men, crushed rock and other materials necessary for repairs to the road; he shall issue these upon blanks prepared for same to road men. All district engineers are to make daily reports of their district to the department of engineering. Whenever it becomes necessary to employ workmen to assist the road men in the performance of their duties the district engineer shall immediately furnish workmen upon the request of the road men providing his investigation of the matter shows the necessity for the extra labor. In case of emengency, however, workmen may be employed by road men and later approved by the district engineer.

SEC. 5. The sum of two hundred thousand dollars is hereby appropriated out of any moneys in the state treasury not otherwise appropriated to carry out the provisions of this act.

SEC. 6. This act shall take effect immediately.

RIVER CONTROL.

The great basins, constituting the two great central valleys of California, have been made by the rivers carrying detritus, and gradually building up, by deposition, the rich alluvial lands that are now reclaimed, or sought to be reclaimed. The settler or farmer early recognized the fertility of these rich soils, and began their cultivation. After a short time, he found it necessary to build dikes or levees, to protect his holdings. At this point, the problem of floods presented itself, and was augmented each year, as more lands were reclaimed.

Ever since the organization of the State Engineer's office, in 1877, there has been an effort made to bring about better conditions in flood control, on both the Sacramento and San Joaquin rivers. This effort has not, to date, taken the proper form to insure any comprehensive or general scheme, whereby the flood waters of these two great rivers can be controlled by the work of man.

Although there have been a great many recommendations, and investigations of river conditions in these valleys, yet there has been nothing definite formulated, or begun, that means their reclamation from flood waters. The data, or information gathered at various times, and presented to the various able engineers who have been called to investigate this problem, is so broken, and of non-continuous record, that it is a very difficult matter to properly establish a complete plan for the remedy of present conditions. To be sure, a great many surveys have been made, and a great deal of engineering information has been obtained, yet there have been lapses in the measurements of the stream flow, and other matters, that makes the problem more difficult than if we had direct and continuous information, even from the date of the original establishment of the State Engineer's office. The layman who has had occasion to watch the course of events along these rivers, has seen much surveying and investigating done, but has not seen the accomplishment of actual work, with the ultimate purpose in view of getting control of the great floods of these rivers. While the engineers have discussed and studied this matter, and made recommendations in relation to its control, the property owner or land owner has either individually, or by association into a reclamation district, been building levees to reclaim a particular piece of land, that he or his reclamation district owns. By this plan, this property owner seldom looked to his neighbor for assistance, but simply began, in the first instance, by placing a levee around the property, that would keep out the water, and, as another reclamation district would be formed, and they began to build levees, he would then be compelled to make a higher and stronger embankment. This was done, and as all the lowlands, or nearly all of them on the lower rivers, became reclaimed, there began a struggle or war, in which the biggest and strongest levee would certainly be the winner. This war of levee building is, today, going on along our rivers, and it is the result of an ill-founded plan by which each man or district struggles to have his, or their, particular land saved. Recently, however, and after some of the bigger floods of recent date, when breaks with their attendant enormous losses have occurred, set many of the land owners to thinking of the interdependence of the safety of their lands, as, for instance, the Edwards break poured water on the east side of the Sacramento River, below Sacramento City, across the lands southward to the Mokelumne River. This one break alone, in the vastness of its damage, showed the property owners how futile the present scheme, or plan of building levees, is. By this piecemeal method, or each man for himself, in levee construction there is no system, and, certainly, the result must be great losses whenever the river reaches its flood stage. What is needed along these streams, is a comprehensive and complete system of levee building, to protect the lands from the flood waters. This, I even place above the subject of navigation, for the reason that the rich lands in these valleys would have no use for navigation, if the flood waters were allowed to break the levees almost at will, and destroy the crops. There is no question, however, but that a plan can be devised to get rid of the surplus, or flood waters, and at the same time protect navigation. The correlated questions of navigation, drainage, flood control, and irrigation, must be carefully worked out, or else some one of these subjects may be handled in such a way as to be detrimental to any one of the other subjects. To illustrate the point, it could be shown that the proposition of constructing reservoirs at the headwaters of the Sacramento River, to retain flood waters and serve irrigation, would perhaps solve the problem of irrigation, and yet may have but little effect upon the problem of river control. If the dams were constructed for irrigable purposes, they would necessarily catch or retain the first waters that fell in the mountains, and thereby load them to their capacity. Whenever heavy rainfalls would swell the river, these reservoirs would have been filled, so that the protection along the subject of flood control would practically be nil. Another item that will serve to show the apparent antagonism of flood control and navigation, is the fact that, for navigation during the moderate or low stage of the river, it is necessary to confine the water to a channel, while, for flood control, river capacity must be had, that the waters may flow to their destination as rapidly as possible. The great and serious problem of the San Joaquin and Sacramento rivers, is the question of getting the flood waters into Suisun Bay as rapidly as possible, and to do this it is necessary to have river capacity sufficiently large to meet even greater water measurements than was made by the United States Geological Survey on March 19, 1907, when it was estimated that above Sacramento City the maximum amount of water entering the valley was 500,000 second feet. The upper reaches of the river, with its steeper gradients, has a greater capacity than the lower reaches where the gradient is greatly lessened. If you will go along the Sacramento River from Red Bluff to its mouth, you will see the change in grade, and yet you will note the fluctuations in width, until at Baker's Point, near the mouth of the Sacramento, you have but a 650 foot width between the levee on Sherman Island and the bank at the point. The idea of carrying the flood waters of the Sacramento Basin, in the Sacramento River, between its present levees is positively absurd, and yet we see every year new reclamations going on above the city of Sacramento, taking away the over-flow basins, and thus compelling the waters to seek other basins or channels. As these reclamations progress, we are bound to find severe conditions at flood times. The space between embankments can not carry the water without tremendous and extreme levees. The continuation of this levee building for reclamation, means that the fight for bigger and stronger levees becomes greater each year. To-day, the Yolo Basin seems, by force of circumstances, to be the dumping ground for the waters of the Sacramento above Sacramento City. In this basin, there has been no unity of interests, and the levees fronting the river along it are not equal to those on the opposite side of the river. It is, therefore, certain that, until this basin awakens to its position, it will be a natural reservoir for the Sacramento River and its tributaries above the mouth of the American River.

During November of this year, the city of Sacramento voted bonds, in the sum of $75,000.00, to assist in the matter of widening the mouth of the Sacramento River. This is certainly a commendable spirit, and, if the problem of river rectification continues from the mouth towards its sources, as it should, the city of Sacramento will shortly reap many fold the benefits of this expenditure. The property owners occupying or owning the lands near the mouths of the Sacramento and San Joaquin rivers, have made the purchase of certain lands below the town of Rio Vista, that are to be thrown into channel space for the mouth of the river. This fund from Sacramento City is to assist in purchasing rights of way, that this may be turned over to the Federal Government without cost to them, when, under the California Débris Commission, which is a commission of three government engineers, there is to be expended $400,000.00 from the Federal Government and $400,000.00 from the State government, to open up a channel way between Rio Vista and the mouth of the Sacramento. This money is now available, whenever the rights of way are presented to the Federal Government. At this point, I view the problem with the utmost interest. We are beginning, at the right part of the river, to remedy conditions, and, beginning at the right part of the river for this purpose, we certainly should begin in the right way. Work at the problem, and stick tenaciously to it. The Government's interest, heretofore, along the Sacramento, has been the protection of navigation. What most of the land owners want is protection from flood waters. As we go near the mouth of the river, we enter the tidal area, and thereby contend with the tidal flows in the mouth of the river. This problem, from the point of view of flood control, must be worked out sufficiently broad in scope to give proper navigation, and proper flood control. If, at this point, we could step across Sherman Island, and view the mouth of the San Joaquin, we would readily see that a broad, wide mouth allows the escapement of flood waters. The tidal flow when it is ebbing, and the flood waters, occupy practically the section of the river. However, when the tide is incoming, and up to the point of high tide, and we have a flooding river, there is a sort of water dam, and the flood waters must, so to speak, overtop the tide. This condition would exist, practically, whether the river be one hundred feet deep, or ten feet deep. To be sure, there must be a channel space for navigation, but we should look carefully to it, and see that we get an ample width at the mouth of the Sacramento River. This project must be successful, in order that the land owners may see that the problem is being worked out to their benefit, and their support obtained for the continuation of the general scheme. For a great many years, there has been a discussion about the irregularity of the system of levees constructed in the valleys, and some effort has been put forth to remedy the condition, but nothing definite ever came of this. It seems to be the unfailing desire of each land owner to place his levee upon the river's banks, as close to the water's edge as he can get it. Whenever this is done, the man who constructs that levee is entering upon dangerous ground. We have numerous appeals, each year, for assistance, by those who have constructed a levee on the edge of the river, and as soon as the waters begin to cut the bank, and the levee begins to cave in, they rush to us for help. The present method of dredging by clam shell dredgers is largely responsible for this location of the levees. It would be much preferable, however, to make a cut, and place the levees behind such cut. This idea is very seldom popular with the land owner, but it is a safe and sane method of procedure. We should have, at the incoming session of the Legislature, the enactment of a law that would properly systematize levee building in both of the great interior valleys. There should be a central head to have control of future levee building, and all future breaks in levees. This should have been taken up many years ago, but, to the people of these valleys, it is of the utmost importance that something of this nature should be done immediately, and further delay stopped. Further on in this report, I have suggested and recommended a tentative measure that will provide for a definite plan in connection with our levees. I firmly believe we should adopt this measure, or one of equal or better construction. Another item that has not been gone into very thoroughly in connection with our levees, is the question of building them in compliance with known hydraulic principles. If we were to construct a dam, we would figure it out to ascertain its resisting power to the water behind it. If we construct a levee, we throw up a lot of sand, mud, or peat, as the case may be, and trust to the elements that it will withstand the onslaughts of high waters and floods. This, in a great measure, is accountable for many of our breaks, and consequent disastrous and heavy losses. A matter that has always been of vital importance to the people of the San Joaquin River, has been the protection of Brannan Island and Three-mile Slough. Had the waters of the Sacramento broken through at any point in this vicinity, the flood plane in the San Joaquin River would naturally rise, and bring about flood conditions on the San Joaquin that have never been attained before. This has been a serious and vital point on the Sacramento River, but, with the cut contemplated below Rio Vista, if successfully carried out, we can then look for the obliteration of this danger. The stream measurements, that the State is coöperating with the United States Geological Survey to obtain in California, will in future be of great benefit to the solution of the river problem. It was through this survey department that the Federal Service gained the knowledge that, in 1907, 200,000 second feet of water flowed through Iron Canyon near Red Bluff. It also gives the information that the basis of figuring the quantity of water flowing in the Sacramento, which was used by the Dabney Commission in the establishment of its plan of river control, should have been doubled. It is to be hoped, that the people of these two great valleys will adopt a law equal or superior to the one herewith given, and it is with great interest that I advocate the laying out, or establishment, of a river control problem, so that when the mouth of the river is brought to its proper capacity we can continue the work up-stream, and then benefit the great bodies of land lying along the Sacramento River. The Sacramento and San Joaquin rivers are both of sufficient importance to demand that this problem be worked out, and after it is worked out that the rivers be maintained in the channels made for them. In the upper reaches of the Sacramento River, a great deal of bank protection, and cutting out of sharp curvatures of the river, should be looked after, as, also, a great deal of this work in the San Joaquin should be accomplished. The start that has been made near Rio Vista should not be left at that point, but should be carried out until we get this problem consummated.

Herewith is presented a tentative law on levee and river control.

An Act to Provide for the Control and Supervision of Levee and Embankment Construction in the Reclamation of Lands That Must Be Protected From Overflow by Levees, and Appropriating Money to Carry Out Its Provisions.

The people of the State of California, represented in senate and assembly, do enact as follows:

Section 1. All lands in this state which are subject to overflow by flood waters and which it is necessary to reclaim by levees or embankments to protect them against such flood waters shall be deemed for the purpose of this act subject to the control and supervision of the State of California, in so far as levee or embankment construction is concerned, and any corporation, company, owner, individual, district or reclamation district, whose land comes within the meaning and purpose of this act, shall before constructing any levee or embankment on said land apply to the department of engineering of the State of California for a permit to construct said levee or embankment, and shall construct a levee or embankment as designed by the department of engineering.

SEC. 2. The consulting river board to the state department of engineering shall have full power to grant to any corporation, company, owner, individual, district, or reclamation district that desires to reclaim any land mentioned in section 1 of this act, to permit to construct their levee or embankment, provided, however, before granting such permit it will be necessary for such corporation, company, owner, individual, district, or reclamation district to furnish said board a description or survey of the land, giving all adjoining water courses, if there be any, and the location, size, kind, and method of construction of levee or embankment to be constructed. This application shall be made to the consulting river board and it will then become the duty of the state engineer upon request of said board to fully investigate all matters pertaining to this application. After proper investigation he shall report the facts and recommendations to the consulting river board, after which they shall take action thereon.

SEC. 3. It shall be the duty of the advisory board to the department of state engineering to permit the state engineer to appoint a civil engineer with the experience in hydraulics for the purpose of gathering all necessary information regarding reclaimed or overflowed lands. Whenever the consulting river board may request by resolution any data or information on such lands, said engineer shall upon the orders of the state engineer proceed to gather such data. The salary of said engineeer shall be fixed by the advisory board of the department of engineering.

SEC. 4. Whenever any levee or embankment as now constructed by any corporation, company, owner, individual, or reclamation district, does not correspond to a general plan which is to be mapped out and filed in the department of engineering, the same shall not be disturbed, unless a break should occur in the levee or embankment and permit the inundation of the lands protected by this levee. Then it shall be the duty of the river consulting board to provide a plan for the location of said levee and embankment which plans are to be furnished by the state engineer and approved by said board.

SEC. 5. Upon this act becoming effective the consulting river board is authorized to gather and collect through officials of the department of engineering all information and data relating to levee construction and lands subject to reclamation by levees within the State of California. After obtaining this information there shall be made a map showing all levees and lands subject to reclamation by levee building in the Sacramento and San Joaquin valleys. There shall also be shown on said map a proper levee system which if approved shall be adopted by the consulting river board as the official levee map of California. This map shall conform to a general scheme, for the complete control of the flood waters of the San Joaquin and Sacramento rivers, and shall be the guidance for all new levee work along these rivers. The general levee layout as shown by this map shall also meet the approval of the proper officials of the government of the United States, having charge of river work in California.

SEC. 6. Any corporation, company, owner, individual, district, or reclamation district violating any of the provisions of this act are guilty of misdemeanor and upon conviction thereof, the said owner, individual, the trustees, directors, or commissioners of such company, corporation, district, or reclamation district shall be subject to a fine of not less than one thousand dollars nor more than five thousand dollars, or imprisonment in the county jail not less than six months nor more than one year or both fine and imprisonment.

SEC. 7. The sum of twenty thousand dollars is hereby appropriated out of any moneys in the state treasury not otherwise appropriated to carry out the provisions of this act.

SEC. 8. This act shall take effect from and after its passage.

PROGRESS OF RIVER WORK.

Since the formation of the Department of Engineering of the State, there has been appropriated $275,000.00 to meet the various demands along the San Joaquin and Sacramento rivers, and such other channels of the State as the Department may determine upon. The policy adopted by the old Auditing Board of the Commissioner of Public Works, of making the property owner pay a portion of the expense of protecting the banks, etc., has been carried out by the Department of Engineering, and, in most cases, the proportion of payment has been one half for the State, and one half for the owner. In some instances, the State has paid for all the work, and, in other instances, it has paid for but one third of the cost of the work. During the past four years that the Department has been handling the river problem for the State, it has proven to be a settled fact that construction work along the river, needs as much attention and care in its maintenance, as any other class of work. We are, therefore, endeavoring to keep up the works that belong to the State, and keep them in shape to perform the work that comes upon them. One bad feature in connection with this work, however, is the fact that after the State has completed a piece of work beneficial to the adjoining property, too frequently such owners completely ignore the work, and not even pay the slightest attention to it, that some small defect may be remedied. It, therefore, becomes necessary for the Department to thoroughly maintain this work, or else it would soon become of little value. The work accomplished in the past two years, by the Department, in channel protection, bank protection, and river rectification, is best given by separately taking up the different improvements that have been made during that time. Before, however, proceeding with the new work, I wish to call attention to some of the facts in connection with the work done in the two years prior to 1909. At Rocky Point, Yolo County, we constructed the first flexible brush mattress used for the protection of banks on the Sacramento River. This was completed on December 31, 1907, at a cost of $4,879.61. Since that time, no expenditures have been made on this work. This revetment, however, has perfectly fulfilled its purpose of preventing the cutting of the levee bank, and has also served the purpose of holding in check the slipping of the granite blocks that have been dumped into this place by the car load, in the endeavor to withhold this bank. This mattress has not received the care it should have, but the willow growth covers it very nearly over, and is showing the efficacy of a permanent living protection. Although this mattress has been abused severely by those in the vicinity of it, it, to date, has served its purpose admirably. Another matter was the closure of Kripp's break, opposite the city of Sacramento. This work was done at a cost of $8,443.25, and the earth and sand was thrown up six to eight feet higher than the levee which it joined. On the lower end of the embankment, we revetted several hundred feet, that the levee might be protected from the direct wash of the water. In fact, the levees on the Yolo side of the river should be brought to the height and size of this Kripp's break levee. On December 5, 1908, the improvement of adding a concrete water cushion to the Tisdale weir, was completed at a cost of $13,607.00. It was tested shortly after its completion, by the flood in the spring of 1909. The water flowing over the crest being fully five feet deep, showed the location of the step of the old weir by a curve of about one foot drop. After the water had dropped into the water cushion, it left the lip of the cushion in a straight, untroubled flow. The examination, the following summer, of the ground surrounding the cushion showed no erosion at its lip. The wing walls on the weir should be extended straight with the flow of the water, and should not flare outwardly. This remedy is being applied at the present time.

IMPROVEMENT NEAR MARYSVILLE.

Following out the plans of this Department, the work of making a new confluence of the Yuba and Feather rivers was commenced December 31, 1908, by clearing off the right of way from near the Northern Electric bridge to Shanghai Bend, on the Feather River. Dredging for the Yuba Cut was commenced on July 28, 1908, and prosecuted under many adverse circumstances to its completion, February 2, 1909. During August, 1908, the Yuba Cut-off was excavated by teams, from the Northern Electric bridge to the Yuba River proper, and a small brush wing dam was constructed to temporarily throw the water into the Yuba Cut. Late in January, 1909, the high water that passed through the Yuba Cut, which was partly completed, cut out the remainder of the channel to very near the desired width and depth, carrying away by erosion about 50,000 cubic yards of material. Following the completion of the Yuba Cut-off, and having obtained the necessary rights of way, and the approval of the United States War Department, preparations were made for bringing the Feather River waters to a confluence with the Yuba Cut, and on May 19, 1909, a contract was entered into with the United States Dredging Company of San Francisco, for clearing and dredging the Feather River. Work under this contract began on May 30, 1909, and was completed on May 10, 1910. It consisted of excavating a channel 250 feet wide, from near the present mouth of the Yuba River to a point on the Yuba Cut made previously by this Department. We also widened the Yuba Cut from this confluence southerly to Shanghai Bend. The bar formed by the present mouth of the Yuba River was left intact, but it is hoped that this winter's freshets will scour through the Feather and Yuba Cut-offs, thus enabling the flood waters in these rivers to pass the two bad points of the Feather River, the Shanghai and Eliza bends. Undoubtedly these two cuts will necessarily have to be maintained, and perhaps the water from the Feather might require a wing or sheer dam to divert part of this water into the mouth of the Feather River Cut. After this season's floods, however, this can be determined. The successful operation of these two cuts, means the lowering of the flood plane at the city of Marysville, and also Yuba City, of from four to five feet. This reduction in high water level is of extreme benefit to that section of the State. The entire cost of this work to the State was $79,436.11, and the total amount of material removed from the two channels was 1,436,849 cubic yards. Of this amount of material, 50,000 yards was moved from the Yuba River Cut by the flood waters during the spring of 1909, and was therefore not paid for. About 200,000 cubic yards removed from the Feather River Cut was not paid for, as it was excavated outside of the lines shown on the plans, and laid out on the ground. The actual cost of dredging in the Feather River Cut, as shown by the reports on file in this office, was $.0277 per cubic yard. This cost price is segregated as follows: Miscellaneous expense, such as oil, commissary, making roads to haul oil, etc., $16,162.67; repairs to the dredge, labor, and materials, $507.90; labor on the dredge for its operation, $9,226.99; depreciation on dredge, figured at fifteen per cent on $60,000.00, $9,000.00; towage not included. Total cost, $34,907.46. For this cost price the dredge people removed 1,255,849 cubic yards of material. In connection with this work, we have endeavored to keep the right of way as free from brush as practicable. In this matter we have been assisted very materially by the levee commissioners of Marysville. For future determination in connection with this work, it will be necessary to watch the results of at least two high waters, that we might remedy any minor defects.

KNIGHT'S LANDING PROTECTION.

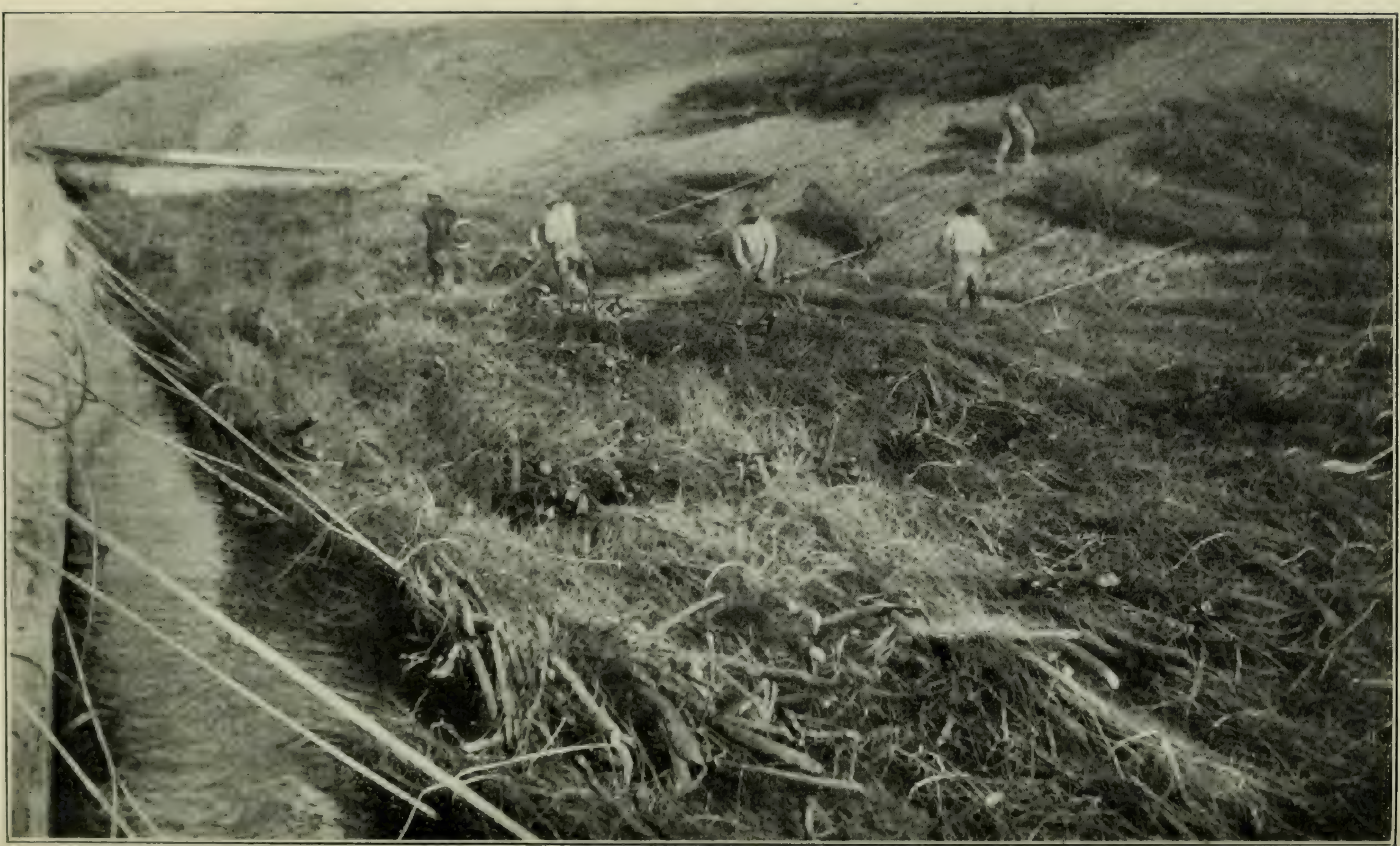
The flood of the spring of 1909, caused the caving in of the bank directly in front of the town, for a distance of about 500 feet. This caving was endangering the street, and it was necessary to use piling for the purpose of protection. We, therefore, in April, 1909, drove a row of piles along the old shore line, and put in a brush bulkhead against them. Behind this, we filled in with earth and gravel material, so that the bank and roadway might be protected. The cost of this work was borne equally by the State and Yolo County, and amounted to $1,623.80.

JACINTO WORK.

At this place the river makes a sharp bend, and the impingement of the current, directly against the bank at the Jacinto Landing, caused a very deep hole, and a dangerous cutting of the bank. To correct this condition, the adjoining property owners donated to the State a right of way along the old Glenn canal, which was cleared of brush by the department in May, 1910, at a cost of $2,106.13, and prepared to take the flood current, and carry it in a straight line across the neck of the bend. This should eventually result in the main channel being shifted to the straight line through the cut, provided proper precautions are taken to maintain a clear and unobstructed passage for the water. At this time, the brush has grown again so that there is a considerable growth in the cut which will act to retard the cutting action of the water, unless it is removed before the river rises.

BRANNAN ISLAND WORK.

The revetment constructed as a protection to the levee on Brannan Island, by the department, in 1908, was partially destroyed through the loss of the iron clips on the cables, and perhaps damage to some of the cables themselves. Whenever a mattress constructed of brush, cable, and concrete, is allowed to start by the breaking of the cable, or the loosening of the clips, it is a difficult problem to hold it in check where the soil beneath the mat is of a sandy nature. The water washes the sand to a beach slope, and constantly strains the mattress in its downward and outward dropping tendency. The damage that accrued to the work on Brannan Island could have been stopped, had it been taken in its inception, but, after the break had started, it was permitted to continue to break the cables. In the fall of 1909, the owners of the island requested the department to replace the part that had been destroyed, and to continue the work along the whole exposed front, from Three-mile Slough northerly up to the cut. The work was accordingly begun in November, 1909, and completed July 29, 1910, at a total cost of $60,331.10, payable equally by the State and by the owners of Brannan Island. To forestall the slipping or washing down of the sand that has piled into the levees, the new mattress placed on this island front was thickened at a point along the mattress in the tidal zone. This additional brush will prevent any movement of the sand. On clay or alluvial soil this extra precaution should be done away with, and the extra expense avoided. The work done during the interim given above, consisted of repairing 451 feet of the old mattress, and placing 5,002 feet of new mattress about sixty feet in width. In building this type of mattress, we practically install a loose mattress beneath the woven one, and in this manner kill the effect of any wave action. See the compared table of costs of river work.



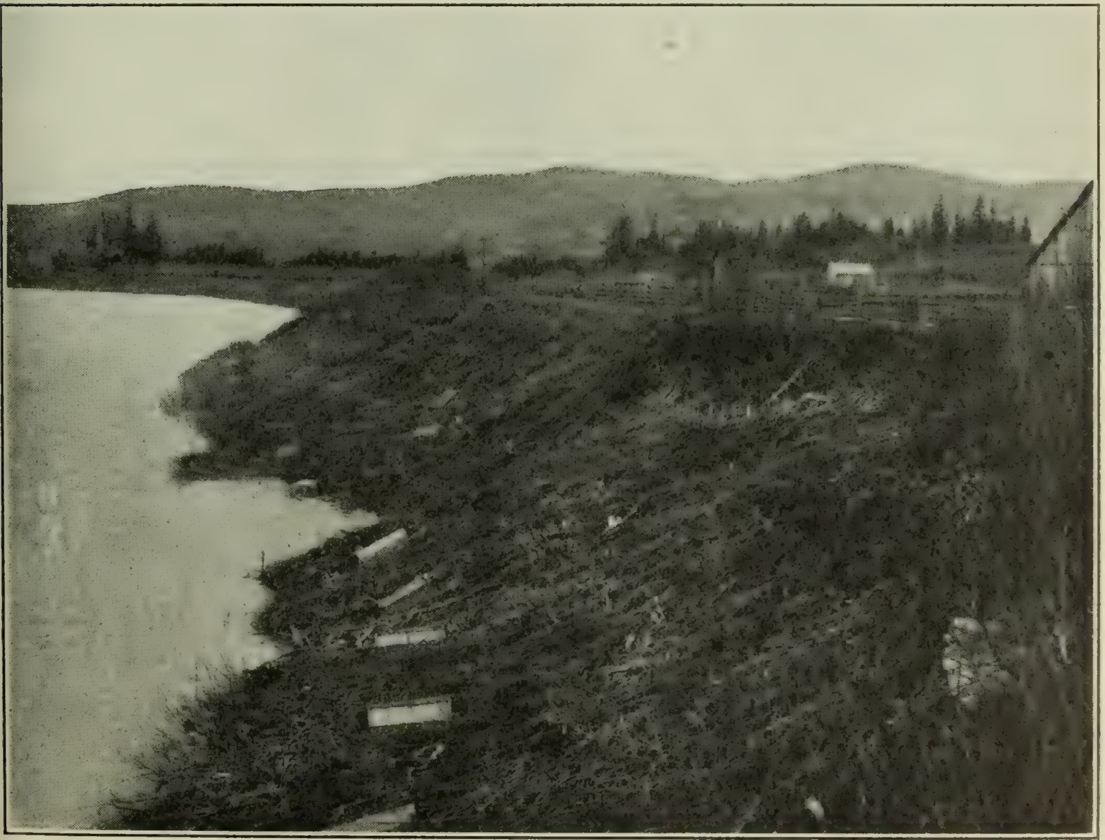
Weaving Mattress River Bank Protection, Brannan Island.

SHERMAN ISLAND.

The revetment constructed in 1908, on Sherman Island, by the department, gave satisfactory results. At the solicitation of the district, the work of extending the revetment at Jetty Cove and Jap Landing was commenced and finished in March, 1910, at a cost of $5,879.74, payable equally by the state and the property owners. Additional to this the current during the flood of 1909 had almost eaten away the bank and levee on the north end of Sherman Island where it is bounded by One-mile Slough. This point is vital to the reclamations on the San Joaquin River, and had the levee given away, a great part of the flood flow of the Sacramento would have been thrown diagonally across Sherman Island to the San Joaquin. The Sherman Island district requested the department to draw plans and do the work necessary to remedy the condition. We finally adopted the scheme of driving two rows of piles about four feet between them, and filling this space in with brush facines, making a curtain wall of brush about 500 feet long. In addition to this curtain wall, we sank a mattress 800 feet long to protect the bank, and again sank a mattress on the outside of the piles to protect their footing from scour, and prevent the undermining of this pile work. The estimated cost of this work was $9,452.00. In February, 1910, we completed the protection to the levee, and then moved to a point, at the head of the slough, where it leaves the Sacramento River. This point of the island receives the brunt of the wash as the Sacramento waters sweep by it, and into One-mile Slough. Here a revetment has been completed, at an equal cost to the State and property owners. After the accomplishment of this work on Brannan and Sherman Islands, it is certain that the waters of the Sacramento River will be restrained from flowing to the San Joaquin, except through their channels of Georgiana Slough and One-mile Slough. During the flood of 1908 and 1909, Sherman Island levee at the Perley Ranch, one mile below Baker's Point, split longitudinally, and was carried away for a distance of 1,160 feet. This resulted in flooding the island, and also tearing out about 1,000 feet of the levee at Maybury Slough, on the San Joaquin River side. After the recession of the flood waters, the island was practically a lagoon, with two openings through which the tide coursed with such velocity that it was impossible to hold a rowboat in the breaks, or in their immediate vicinity, except at slack water. The wash of the tide waters through these breaks, resulted in eroding the bottom on the line of the old levee, to a depth of over thirty feet in places, the average depth of the Perley break being about twenty-five feet. In the spring of 1909, the trustees of Sherman Island had plans and specifications prepared, and asked for bids for the closure of

Perley break. In the interim, the trustees asked for assistance from the State. We made surveys, drew plans, and prepared specifications, and made an estimate for the work. It was figured that the execution of the scheme we had laid out would cost about $18,000.00, without any contigencies allowed. The lowest bid received by the trustees was about $43,000.00, and the State, through the Consulting River Board, having refused to assure the expense of closing the break, the trustees of the island requested permission to use the plans prepared by this office, and to be furnished with a superintendent for the work. All the expense was to be borne by the district. This was done, and on April 13, 1909, work was commenced, and the closing of the break was completed June 17, 1909, at a cost of $18,500.00. On July 26th of the same year, work was started on the Maybury break, under the same general plans, and completed August 27, 1909, at a cost of $11,443.00. These costs are for labor and materials, as ascertained from our own records, and from the trustees, and includes the dredging necessary to fill the cores only. It is proper, at this time, to give a description of the method of closure on breaks of this nature, as it is believed that, up to breaks of no greater depth than fifty feet, this method can be employed with great success, provided all the details are carried out in the manner prescribed. Each particular closure has its own difficulties, and, consequently, this method must be varied to that extent that it shall meet those difficulties. The plan is outlined here in general, and on another page is given a view of a piece of this class of work. In the first place, four rows of piles are driven parallel to the center line, and as close as possible to the old line of the old levee. They are driven eight feet on centers longitudinally, and three feet, and twenty feet, transversely. The outer rows are staggered so that the two double rows of piles may be crowded with facines of brush, so that the wall or barrier of brush breaks the flow of water. When these two walls of brush are brought up, and the core of twenty feet filled with earth material, you, therefore, have a wall of earth supported on either side by three foot walls of brush. It is usually necessary to protect the old ragged ends of the levee by a brush mattress, before beginning this work. Another item in connection with this work, is the fact that the piles must be braced transversely, the same as we would use struts and ties in a truss, that we may take up all the tendency to vibrate, and permit of the pile popping out. In the case of Sherman Island, after these brush walls were filled to above high tide, the work was turned over to the trustees of the island to complete.

Willow Growth of Mattress, Sherman Island.



Willow Revetment, Eel River, East Side.

MERKELEY REVETMENT WORK.

The revetment work placed in front of the Merkeley ranch, and next to the Sacramento Southern Railroad, was in three sections. It was thought at the time, that possibly the intervening spaces might hold, but the high waters began eating between the mats, and it was determined to extend this mattress and close the gaps, that we might have a continuous revetment over this bad place in the levee. The first work done at this place has made a good growth of willow, over both the mat and some stakes that were driven into the mat. When this growth covers the mattress we will have a living revetment, and, by proper care, it should be everlasting. This work is paid equally by the reclamation district, the Sacramento Southern Railroad, and the State.

OAK HALL WORK.

In April, 1909, the bank at Oak Hall, on a rather sharp turn in the Sacramento River, began caving to the extent that it endangered the levees. The matter was brought to the attention of the Consulting River Board, and they passed upon the matter favorably. It was, therefore, arranged for the property owners to pay one half, and the State to pay the remainder for the mattress, which cost $1,433.70.

CHICORY BEND DREDGING.

During the flood of March, 1909, the high water topped the crest of the levee on the Yolo bank of the Sacramento, for a distance of about five miles below the city of Sacramento, and on the 17th of March, at midnight, the levee broke in three places at a place near Chicory Bend, about three miles below the city, thus relieving the situation by making an outlet for the flood waters into the Yolo Basin. On the evening of March 17th, the current of the Sacramento, at the railroad bridge, was estimated to be about three miles per hour, while, on the morning of the 18th, it was estimated to be fully eleven miles per hour. In January, 1910, in order to prevent the increase of the bar below the break during the next flood season, the closing of the break was undertaken by the Department, and completed April 6, 1910, at a total cost of $6,137.31. This cost exceeded the estimate of $5,000.00, as a considerable portion of the material had to be handled twice, and the work was extended beyond the original plan as laid out. The expense of this work was borne by the State, the property owners, and the county. The supervisors of Yolo County donated $1,000.00 toward the work, and, also, the McConnell estate, who owned the adjoining land, donated $1,000.00. Rather than bring the new levee of the closure out beyond the bank of the Sacramento River, it was kept in, as all such closures should be.

INVESTIGATIONS ON THE SACRAMENTO RIVER.

In addition to the work performed by the Department of Engineering on the Sacramento River, many surveys were made, and many bad river conditions were investigated. At Grimes, in Colusa County, there is a moderately sharp bend in the river, and the current impinges strongly against the bank, causing an undercutting, and endangering the levee that protects the property in this section. A survey of the condition was made, and the same is filed in the department's office. On the upper reaches of the Sacramento River there is a great tendency, on account of the grade, for the river to switch about laterally, and cut the alluvial soils away. We investigated, below Red Bluff, a condition of this nature along the banks of the lands of the Los Molinos Land Company. It was suggested to the owners of this property that they revet, in a cheap manner, this cutting of the banks, in order to get a growth of willow, and thus prevent the erosion. Many of the bad turns on the upper Sacramento River could be controlled, if taken by the property owners, and a growth started at the upper end of the cutting, and then follow out along the bank with such growth. At the Yerxas Bend, the office made an investigation of the river, and found a large loop about a half a mile across the neck, and three miles around. These loops tend to move bodily down stream, as the cutting and filling by the stream tend to compensate each other. In connection with this point, the property owners failed to stand their portion of the expense, and, although the State was ready to go ahead with the work, yet nothing has been done. A similar condition exists at Hamilton Bend, on the Sacramento River, although the cutting is not quite so far advanced as on Yerxas Bend. At Moon's Bend, below Colusa, conditions have remained about constant. The levee which was put up by the district, in 1909, was carried away by the flood of that year. The Feather River overflowed its banks below Oroville, and flowed in a southwesterly direction, by the Marysville Buttes, across the country, and, striking Moon's Bend, was a big factor in tearing out the new levee constructed there by the district. This levee was built by teams and scrapers. After it had been destroyed, the district employed dredges, and threw up a levee of more permanence and solidity, which, it is believed, will withstand the waters that might come in to the Sacramento at Moon's Bend.

Below the brickyard, near the city of Sacramento, the district had abandoned an old levee, and had thrown up a loose levee of sandy material, directly on the river bank. By this plan, some additional land was gained, and a great deal of additional dangerous levee was gained. It is a mistake to place the levees on the margin of the river, and, especially is this so, where they are thrown up of sandy material. Between Sacramento City and the mouth of the Sacramento River, there is a great deal of wave action caused by boats, which is greatly aggravated by those of high speed. This action has much to do with the destruction, and gradual eating away, of the new levees. The use of such boats is increasing, and it behooves the property owner to protect himself against this development of transportation. It will surely compel him, eventually, to go back from the margin of the river, and place his levee where he can properly protect it. Experience has proven that the best plan to meet this augmented destruction of the levees, is by a flexible brush mattress. This, however, must be maintained in such a manner as to give a living growth of willow, or other brush, to break the wave action, if it is to be thoroughly successful.

SAN JOAQUIN RIVER.

The Lorenzen Bend on the San Joaquin has been a source of trouble for some years. The properties on the west side of the San Joaquin, below this point, have been in fear of its cutting through the levee, and subject about one thousand acres of land to inundation. There had been piling and brush placed at this point, in an endeavor to stay the ravages of the stream, but they proved ineffectual. At this point in the river, the water had so cut into the bank, at the turn, that there was a complete whirlpool, and any pile work, or work of that nature, was readily destroyed by this action of the water. The property owners finally decided to request the Department for assistance, and, therefore, on January 2, 1910, work was begun to protect this point by a flexible brush mattress, and the work was completed on April 2, 1910. It was constructed at a total cost of $8,539.64, paid equally by the State, and by the property owners. The revetment consisted of a flexible mattress, made into sections that would lap as the shingles on a roof lap, so that the action of the water, in swirling by, would readily pass over the mattress. It was 625 feet long, and was made of extra thickness, so that the sandy nature of the levee could be thoroughly protected from the wash of the water, or any wave action that might come against it.

JERSEY ISLAND BREAK.

This department, having been requested by the owners of Jersey Island to prepare plans for the closure of the break which occurred on the San Joaquin water frontage in January, 1908, surveys were made, and plans drawn for the closure, along the same lines as the plans followed in the closing of the Perley break on Sherman Island. After a visit to the Jersey break, a resurvey was ordered made, in an endeavor to locate the condition of the peat on the inside of the break. This second survey showed that a sort of peat island, just inside the break, was unstable, and practically floating, so that the original plan of closing had to be abandoned, and the closure took place along the line of the old levee. The estimated cost of this closure was $20,000.00, but the actual cost was largely in excess of this amount, due largely to dredging conditions. Final closure, however, demonstrates the practicability of closing breaks in the levees, along the San Joaquin and Sacramento rivers, when the depth of water does not exceed fifty feet. This work was done at the cost of the owners of the property, the department simply furnishing, for a part of the time, the superintendent for the work.

MOKELUMNE RIVER IMPROVEMENT WORK.

Following out the plans for the improvement of the Mokelumne river above the Galt New Hope bridge, as stated in the report of this department, the work of cutting out the brush and trees, between the banks of the river, was continued from December 24, 1908, to March 22, 1909. The total amount of ground cleared was 25.6 acres, and the total cost of clearing was $1,941.45, or at the rate of $75.84 per acre. This expense was borne, one third by the State and two thirds by the property owners. On February 5, 1910, the work of dredging and snagging was commenced, and prosecuted to September 24, 1910, at a total cost of $22,782.39; two thirds of which was paid by the property owners, and one third by the State. The work accomplished resulted in a free and unobstructed channel for a distance of about five miles above the drawbridge, and the making of five cut-offs. In addition, all trees felled in clearing, and all snags removed, were placed on the outside of the levee banks, being thereby permanently removed, and ceased to endanger the regimen of the river.

In December, 1909, in response to a request from the trustees of district No. 348, an extended examination was made of this district lying north of the Mokelumne River, and between the Western Pacific and Sacramento Southern railways, and the following report was rendered on the subject:

SACRAMENTO, February 11, 1910.

The Trustees of Reclamation District No. 348:

GENTLEMEN: After viewing the Mokelumne River, Burton Slough, and vicinity, about two months ago, in company with Mr. Kise, Mr. Harvey, Mr. Barber, and others, and learning what I could from personal observation along this river and Snodgrass Slough, I undertook the solution of the Mokelumne River levee problem, between the Western Pacific Railroad crossing and the forks of the said river.

Even with the maps and data at hand, in the Department of Engineering, difficulties were encountered, and it became necessary to send my assistant, Mr. P. M. Norboe, to investigate the situation, and gather some information necessary before arriving at a fair conclusion in the matter. Therefore, I herewith present some data upon which my conclusions are based. I desire to make the explanations as clear as possible, and, for that reason, will not enter into any technical discussion, but give the obtained facts.

The Mokelumne River has three drainage areas or basins to supply its water, viz: Mokelumne, Dry Creek, and Cosumnes River, having drainage areas of 642, 283, and 537 square miles, respectively. The greatest flood flow of the Mokelumne River, of which we have any record, was that of March, 1907. According to the report of the United States Geological Survey, the maximum flow of the Mokelumne River at Clements was 17,000 second feet, and of the Cosumnes River 32,000 second feet (second feet meaning cubic feet passing a fixed point in a second of time). The flow of Dry Creek is not given, but, since it lies between the other two streams, its run off may be taken as the mean between the run off of the others, to wit: 44.3 second feet per square mile of drainage basin, or a total of 12,500 second feet. These make a total of 62,100 second feet as the probable maximum discharge of the Mokelumne River during the storms of 1907, and represents the quantity of water for which channel capacity must be provided in the lower reaches of the river.

From the confluence of the Cosumnes, to the junction of the Mokelumne with the Snodgrass Slough, the land is shown, by the United States geological survey maps to have an elevation of 0 to 5 feet above the mean sea level. The tops of the levees at New Hope Landing are 12 to 16 feet above this datum. The flood water height at New Hope Landing, pointed out by the bridge tender, is 10.8 feet, and at Benson's Ferry bridge it is said to have been 14.2 feet, United States Geological Survey datum. The distance following the current of the river is about 27,000 lineal feet. This would give a gradient or slope of about 8 inches to the mile, being somewhat flatter than the slope of the flood plane of 1903, as deduced from the records of the former Commissioner of Public Works.

Now assuming—

Flood flow 62,000 second feet.
Flood depth 10 feet.
Slope of water surface .66 feet per mile.
Sectional area of present river channel 500 square feet, coefficient *n′* .030 (Kutter's formula). Kutter's formula is an arbitrary factor used in hydraulics, and obtained from experiments.

With these elements, the hydraulic calculation gives the width of channel required, to be 2,200 feet between levees, provided the waterway shall be fairly free of obstructions. Extending for more than a mile down stream, from the Benson Ferry bridge, the land north of the river is covered with a heavy growth of timber and brush, which would act very much as a dam to hold back the water. The extent of such retardation can not be expressed by any known formula, therefore, the estimated width of channel required to carry a flood must be increased, arbitrarily, by an amount believed to be sufficient to compensate for the retarding effect of the timber and brush. Assuming 500 feet to be the probable additional width required, then the total width between levees would be 2,700 feet.

The New Hope District has a fairly good levee all the way along the south side of the river, and, as there are no sharp bends which would be benefited by cut-offs, it would probably not be advisable to interfere with these levees. A levee, beginning at the lower Stockton road levee north of the Burton Slough, and running approximately parallel with the New Hope levee, and 2,700 feet distant, will embrace about 1,764 acres for right of way. With an average height of 13 feet, top width of ten feet, and with slopes 3 to 1, and 1½ to 1, such a levee would require about 435,000 cubic yards of earthwork.

A shorter levee may be made, sacrificing more land, by commencing at the same point as above indicated, and following along the north side of Burton Slough until past the outlet of Burton Lake, and thence west to join the grade of the Sacramento Southern Railroad at the north end of the Snodgrass Slough bridge. This plan would embrace about 2,450 acres in the flood channel, and, for the same dimensions as the other levee, would require about 302,000 yards of earth.

Summarized:	Earthwork.	Area of right of way.
First plan	453,000 cubic yards	1,764 acres
Second plan	302,000 cubic yards	2,450 acres

Either of these plans would give ample room for the flood waters of the stretch of river involved. See the accompanying map, for the approximate location of the levees under these plans.

A factor, largely instrumental in determining the width required, is the tidal affection in the Mokelumne River, along the part under discussion. We must provide width, instead of depth, to allow of the escapement of the flood waters, as any extra depth would simply be filled by tidal water. To overcome this tidal effect, we must make room for the flood waters to overtop the tide waters.

In the solution of the problem given above, I have figured on prevention of the engorgement of flood waters, by the construction of levees in the proper location. At the present time, there exists a narrow channel for the river, lined with brush and trees on either side, and an overflow slough, known as Burton Slough, to receive a great portion of the waters of the Cosumnes, and thus filling the basin east of Snodgrass Slough. It is now the intention of the owners of this basin and the lands immediately north of the Mokelumne River, between the mouth of the Cosumnes and New Hope Landing, to reclaim this body of land. The very natural question arises of where to set the levees. This matter should be studied thoroughly by the land owners, in an endeavor to prevent falling into the errors of previous reclamations. It should be studied as a whole problem, and not simply one of throwing up a big, strong, high levee, and letting it go at that. Should the new levee encroach too near the river bank, and curtail the river areaway or cross-section, then will begin the same old battle of levee building exhibited so disastrously on the Sacramento. The interests of all parties concerned, demands a width of stream sufficient to carry the extreme flood waters away, without damage. This can only be obtained by adhering to the solution given above. The owners of land along the south bank of the Mokelumne river, as present, have a levee which, under ordinary conditions, with the overflow basin to the north protects them from the floods. However, should levees be constructed too near the river, then would such lands be jeoparized by the high waters. It appeals to me, very strongly, that a proper and equitable solution of the problem is for owners, on either or both sides of the river, to get together, and adjust the loss of the value of the land between the north bank of the Mokelumne and where the proper location of the levee should be. If the south side land owners retain their levees at the present location, they should certainly contribute to value lost by the north side owners, who give their land for the flood flow of the river. The recommendations as to location of levees herein contained, is of the utmost importance to every one interested. If their failure to agree upon such location, and the land recommended for river bed is appropriated to reclamation uses, the blame for disastrous results, which will sooner or later come, can be properly placed on those upon whom the final word in this matter comes. Allow me to suggest, that each and every party interested gives the subject study, that no mistake may be made. If, at any time, my services are desired on either side, I will gladly assist to arrive at a conclusion, for the general welfare of the plan.

Very respectfully,

(Signed) N. Ellery, State Engineer.

RUSSIAN RIVER INVESTIGATION.

In response to a petition made by the citizens of Washington Township, Sonoma County, on August 2, 1910, an examination of river conditions, near Geyserville, was made during that month, and later, in October, a survey of that section of the river was made. I give, herewith, the report of the Assistant State Engineer who made the survey of this section of the Russian River.

REPORT ON RUSSIAN RIVER.

August 25, 1909.

Mr. N. Ellery, State Engineer, Sacramento, Cal.

Dear Sir: Pursuant to your verbal instructions, I have visited the scene of reported damage resulting from floods along Russian river, in Sonoma county, and, in relation thereto, I have to report as follows:

Near the town of Geyserville, the river enters a valley, oval in shape, about two miles wide, and three miles long. The river traverses the valley, approximately, along its major axis. The bed of the river is from 1,000 feet to half a mile in width, the stream meandering from side to side, sometimes in one well defined channel, but frequently cut up into two or more smaller channels. In the river bed, and along its margins, are groves of cottonwood and willow trees, and many clumps of brush, which sometimes are so situated as to protect the banks, but as often cause deflection of the stream, to the injury of adjacent lands.

At the lower end of the valley, where the hills approach close together, and before the river enters a narrow steep gorge, a very heavy growth of timber and brush has grown up, which arrests the flow of the stream, and has caused an accumulation of gravel, sand, and detritus, so that the plane has risen several feet This rising of the flood-plane, together with the heavy timber, acts as a dam, holding the water back, so that about 3,000 acres were flooded in January of this year.

Excepting for the interruption of travel upon the roads, and the inundation of barns, hop houses, etc., the flooding does not seem to have caused much, if any, damage. The flooded condition lasts but a few days at a time.

Owing to the extreme height of levees required to keep the water off the land, it would seem that the expense of such a system would be out of proportion to the benefits accruing from it.

The river, as above stated, meanders across its bed, often changing its alignment. During the last season, the channel shifted in a number of places. On the farm of Mr. George Larkins, it completely changed its position, and washed away a large tract of land, including seven acres of bearing vineyards. Several acres of rich land were also lost by Messrs. Hall, Ferguson, and others.

While it is not advisable to undertake to prevent the flooding, which could only be done by extensive enlarging of the channel at the outlet from the valley, coupled with levee systems, yet the conditions which cause the erosion of land may be changed, and greater relief obtained at reasonable cost, by clearing a straight channel through the timber, and by the construction of judiciously placed jetties to direct the current, and probably some bank revetment to protect existing banks which are threatened. No work of this kind should be undertaken, at public expense, unless provision can be made to insure the proper care of the works after being established. The clearing of timber must be thorough, including grubbing, but should the clearing be neglected, and allowed to again grow up, the present conditions will return. A well cleared and protected course, from half a mile above the Geyserville bridge to, say, 2,000 feet below the Lytton road bridge, if kept clear for a few years, should improve the regimen of the stream so that the flood-plane would be greatly lowered.

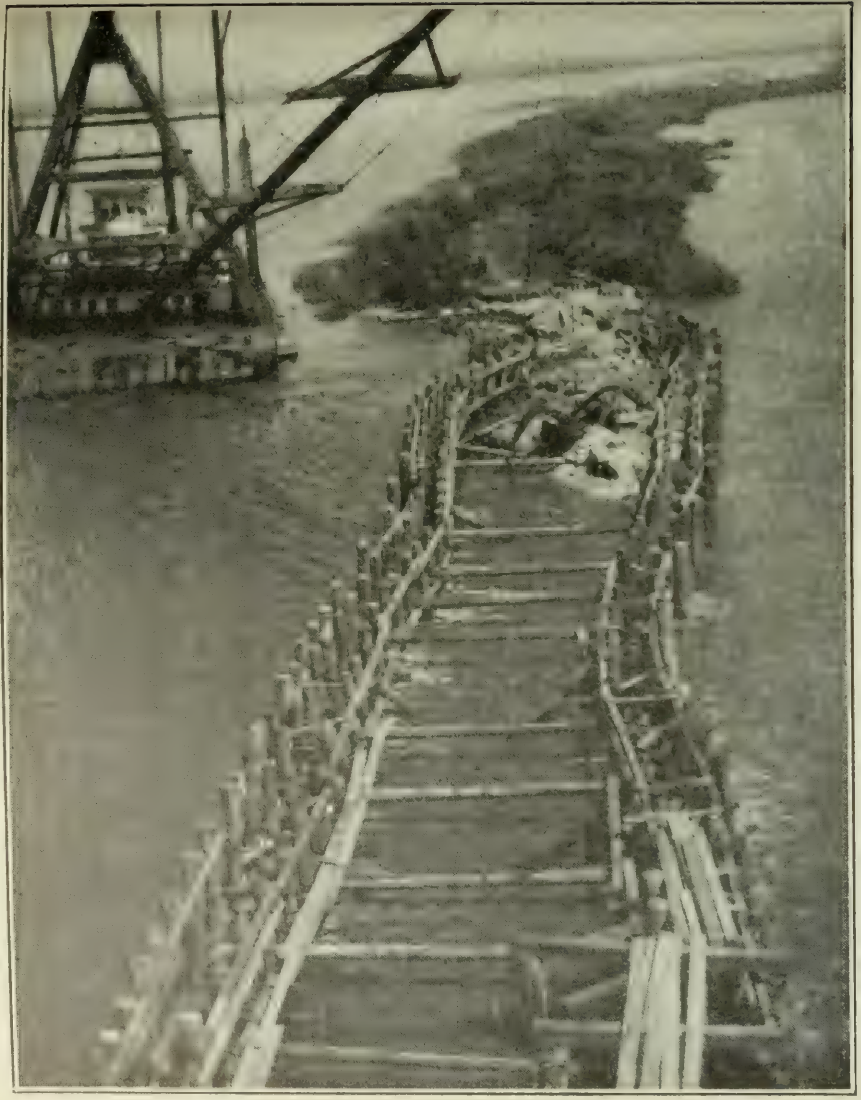
A survey for the proper study of the situation will require about two weeks.

Respectfully,

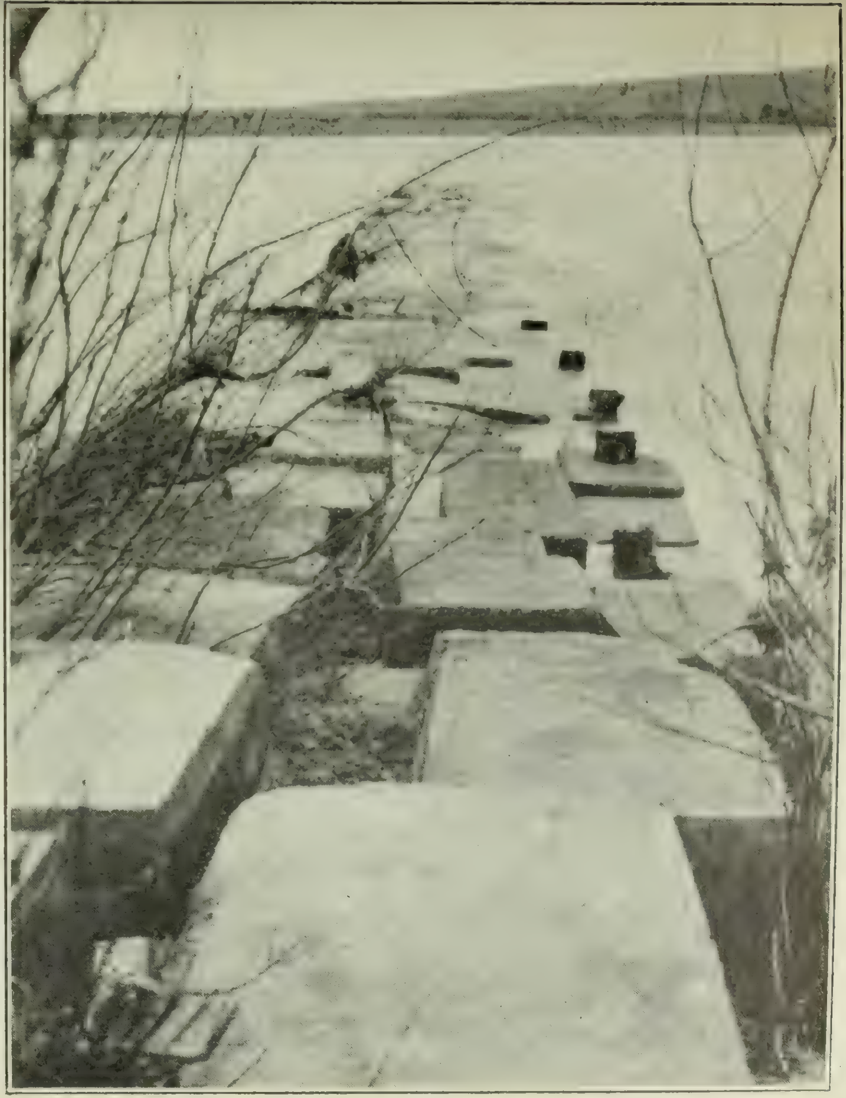
(Signed) P. M. NORBOE, Assistant State Engineer.

EEL RIVER.

At the 1909 session of the Legislature there was appropriated $25,000 to continue the work on Eel River, Humboldt County, and also to repair the damages accruing to the work already accomplished. The nature of the work laid out on this stream, has been, from the first, cramped for funds to carry out the work extensively enough to get good results. Where the waters of a rapidly flowing stream such as Eel River cut the alluvial banks on one side and deposit a gravel bar opposite, it is necessary that the work begin at a safe point on one of these gravel bars and extend along the line where the bank is cutting to a safe point on the next gravel bar on the same side of the river. Without funds to put the required work to protect the banks, where the stream is flowing at flood time about thirteen miles an hour and carrying heavy redwood trees, it is almost futile to attempt this protection against such odds. This Department has endeavored to keep the work on Eel River intact. The problem is a difficult one for the reasons given above. There are more jetties needed to break the under-current, and tend to sheer the water from the bank-line. This can not be done on account of the funds. However, the last appropriation allowed us to repair work on this stream, and therefore during October, November, and December of 1909, we began a piece of revetment that the floods of the spring of 1909 had dislodged. The property owners interested at a point near Phenix Slough raised the sum of $300.00 and the State contributed a like amount, in an endeavor to prevent the water from rushing through this slough and cutting into the lands of several prop-



Levee Break Closure by Brush Walls.



East Jetty, Eel River, Showing Concrete Work.

erty owners. Of this $600.00 there was expended in this piece of work $563.20. At the present time we are repairing and patching up portions of the revetment on both sides of Eel River, which have deteriorated by the action of the last flood, and in some cases we have corrected some old defects by blowing out an old ferryboat that deflected the water against the upper end of the east side revetment. It is the purpose to get a revetment on Eel River, and get a good, solid growth of willow for a year or two, when it will withstand the ravages of high water. At one point on the east side, in what is known as the "Low Sag," at the northwest corner of the Bryant place, we have an extremely difficult place to handle. At the flood stage of the stream the water flows over this sag several feet in depth, and carries with it trees and logs, the roots of which tend to break and tear out the revetment we have on this low bank. If we are able to get a growth of willow of two years in this sag, it is my opinion then the trouble at this particular point can be averted.

HUMBOLDT BAY SURVEY.

In accordance with an act of the Legislature appropriating $2,000.00 for the purpose of making a preliminary survey of Humboldt Bay, and making estimates of cost of needed improvements, a survey of the bay was recently made covering that portion of its waters left unsurveyed by the Federal Government. It was considered useless to expend money to cover the survey that the Federal people had already but a year or two before made on certain portions of the bay. We, therefore, confined our work to sections of the bay beyond the lines of the Federal survey. The field work upon this particular job began September 1, 1910, and was completed on October 31, 1910. In connection with this survey, it is found that the present channels extending to Arcata wharf, Eureka, and Field's Landing in South Bay, are inadequate and should be widened and deepened. A résumé of the results of the survey are herewith presented. The channel from the entrance into South Bay, as far as Field's Landing, fluctuates from 250 feet to 600 feet in width and 10 feet to 23 feet in depth. From Eureka to the entrance the variations are from 350 feet to 1,000 feet in width and from 14 feet, just below Eureka, to 45 feet in depth. Between Arcata and the entrance, via Samoa, the width is from 100 to 600 feet and the depth is from 10 feet to 40 feet. The channel that leaves the main Eureka channel and extends by Bucksport varies from 200 to 500 feet wide and from 5 to 20 feet deep.

The following table shows the amount of dredging for each channel:

	Width.	Depth.	Excavation.
Arcata-Samoa	600	20	2,687,395 cubic yards
Eureka Bar	1,000	30	10,748,461 cubic yards
Bucksport Bar	600	20	3,146,146 cubic yards
Field's Landing bar	600	20	1,336,221 cubic yards
Total			17,918,223 cubic yards

The total excavation on the above basis of depth and width is 17,918,223 cubic yards of material. To move this at seven cents per yard would cost $1,254,000.00. Undoubtedly the problem presented in the table is a vast one, but parts of this work could be done, removing shoals, and thereby be highly beneficial to Humboldt Bay. It is recommended that an appropriation of $50,000.00 be made to remove shoals and sharp turns in the above mentioned channels.

During the two years succeeding 1907 there was appropriated $125,000.00 for the use of the State Engineering Department to continue the work on the rivers and navigable waters of the State. The past two years we have had an appropriation of $150,000.00 for this same work. There was also appropriated at the 1909 session of the Legislature $400,000.00 for the purpose of dredging out the mouth of the Sacramento River. This appropriation was made contingent upon the appropriation of a like amount being made by the Federal Government to assist in this work. The appropriation by the State was made in such a manner that it is turned over to the Federal Service completely, and therefore makes $800,000.00 that the California Débris Commission, a Federal Engineer Commission, shall have to expend upon this work. The State will simply spend the money through the Federal Government upon lines laid down by the California Débris Commission. For the promotion and continuation of the river work of the Department of Engineering, it is recommended and requested that the Legislature appropriate $150,000.00. Some of the work already done by this Department under the meager funds for such work has already proven effective, and has accomplished good results. We have developed the plan of flexible brush mattresses, solely the idea of this Department, to a point where they are now of the utmost value in bank protection work. We have also developed a system of closing breaks by a brush wall idea that will be a vast saving to future work of this nature. I believe this work should be carried on for the benefit of the two great central rivers of California, and it is urgently requested that the appropriation recommended be allowed at this coming session of the Legislature.

SUMMARY OF RIVER WORK.

Dredging.

Locality.	Date of completion.	Estimated cost.	Contract price, per cubic yard.	Actual cost.	Cubic Yards.	Cost per cubic yard.	Remarks.
Kripp Break	Jan. 4, 1908	$5,250 00	Day's labor	$5,674 30	102,489	$0 055	Estimated fill, 75,000 cubic yards
San Rafael Creek	Sept. 22, 1908	9,450 00	$0.0589	10,589 00	164,488	0 064	Work extended beyond estimate
San Rafael Creek	June 9, 1909	2,040 00	0.10	4,922 60	49,226	0 10	Work extended beyond estimate
Yuba Cut-Off	Sept. 19, 1908		Cost+10%	2,829 23	21,620	0 13	Excavated with scrapers
Yuba Cut-Off	Feb. 2, 1909	10,500 00	0.0785	10,104 83	181,000	0 056	
Feather Cut-Off	May 7, 1910	55,000 00	0.0575	61,031 32	1,255,849	0 048	Extended beyond estimate
Mokelumne River	Sept. 22, 1910		Day's labor	22,782 39			Work consisted of snagging and dredging which precluded estimate.
Chickory Bend	April 6, 1910	5,000 00	Day's labor	6,137 31	120,338	0 051	Extended beyond estimate

Levee and Bank Protection.

Locality.	Date of completion.	Estimated cost.	Contract price, per cubic yard.	Actual cost.	Cubic Yards.	Cost per cubic yard.	Remarks.
Rocky Point	Jan. 3, 1908	$3,502 00	Cost+10%	$4,879 61	1,187	$4 11	Extended beyond estimate
Kripp Break	Feb. 10, 1908	2,250 00	Cost+10%	2,773 90	1,172	2 37	Built entirely on bank
Brannan Island	April 1, 1908	18,998 00	Cost+8%	22,081 38	8.586	2 57	Extended beyond estimate
Sherman Island	April 15, 1908	6,325 00	Cost+8%	4,391 42	1,984	2 21	Work curtailed
Merkeleys	May 15, 1908	6,513 00	Cost+8%	5,177 10	1,912	3 02	Work curtailed
Oak Hall	April 5, 1909	2,200 00	Day's labor	1,616 17	363	4 45	Heavy grading
Lorenzon Bend	April 2, 1910	6,000 00	Day's labor	8,539 64	7,377	1 16	Double thickness mats
Brannan Island	July 29, 1910		Day's labor	60,331 10	38,011	1 60	Double thickness mats
Sherman Island	Nov. 2, 1910		Day's labor	33,434 00	23,922	1 39	Includes pile and brush wall
Merkeleys	Nov. 30, 1910	5,000 00	Day's labor				Work going on

Miscellaneous Work.

Locality.	Date of completion.	Estimated cost.	Contract price, per cubic yard.	Actual cost.	Cubic Yards.	Cost per cubic yard.	Remarks.
Tisdale Weir	Feb. 15, 1908			$678 68			Temporary repairs
Tisdale Weir	Dec. 5, 1908	$500 00	Cost+10%	560 00			Permanent repairs
Tisdale Weir	Dec. 5, 1908	11,008 00	0.11102.50	10,572 63			Water cushion and wall
Jacinto	May 7, 1910	2,000 00	Day's labor	2,106 13			Clearing
Knights Landing	Nov. 14, 1909	1,200 00	Day's labor	1,623 80			Bulkhead
San Rafael Creek	June 29, 1909	3,960 00	0.2750.00	6,520 63			Work extended beyond estimate

The actual work usually extended beyond the amount of work upon which an estimate was made, but the unit of costs varied but little.

SAN FRANCISCO HARBOR FRONT.

The past two years, the work of developing the San Francisco harbor front has been more along the line of permanency, than any time heretofore. For a great many years the piers constructed on the front were a pile and timber construction. Their life was very short, considering the damage done by the toredo and limnoria. From this sort of construction an advance was made; an attempt to get a sort of Cushing pier to sustain the superstructure. This was to be constructed of concrete around the pile, and wooden staves formed the outside of the cylinder. This class of work has proven ineffective, and now, where piers are constructed out into the waters of the bay, large steel circular coffer-dams are used, that the concrete may be placed upon the hardpan, or, should this not be within practical reach, then the concrete is placed on the heads of piles, these piles being sawed off a considerable distance below the mud-line. In this sort of construction, the work is brought up above the water-line, in the same manner that concrete work is done under ordinary conditions. There is no opportunity for a segregation of the ingredients of the concrete by its deposition under water, but it gives a stable reinforced concrete cylinder pier, practically indestructible, which can not be destroyed by either the toredo or limnoria, or by any ordinary failure of the concrete itself. In some of the piers and sheds, for instance pier 36 on the San Francisco harbor front, the complete structure, from the hardpan line up to the top of the roof of the shed, is reinforced concrete. A structure of this sort is bound to give the best service to the State of California, and the sooner this class of work is accomplished on the water front, just so soon will the past yearly expenditure of about $350,000.00 for repairs of the wooden wharves be done away with. I believe the State should adopt the policy in its construction, at this institution, of having nothing but permanent work included on the properties owned by the State.

Another improvement that has been made within the past four years, is the class of seawall constructed for the protection of bulkheads. Taking the Ferry Building as a central point, the seawall north as far as Fisherman's wharf, the end of the jurisdiction of the State, has been completed. For 600 feet south of the Ferry Building, the seawall is completed; then, there is a gap of 1,750 feet to yet be done; then, going southerly, the seawall is constructed to a point near Channel street. Perhaps 600 feet more seawall near Channel street would be of advantage to the State. Continuing across Channel street, the seawall is constructed in front of the China Basin, out to what is known as Pier 54. There still remains about 2,350 feet of seawall to construct, and this, I think, should be done in a manner to give permanency to the work. The old method of building seawall by dredging out the bed, then dropping rock into this bed, and, at a certain slope, bring it up to the surface of the ground, and facing this slope with larger or about one-man size rock, is, to my notion, inadequate for the work on the harbor front. The idea of bringing a seawall part way from the bottom upward of broken rock, then for the last twenty-five or thirty feet making a solid reinforced concrete bulkhead upon piles driven in this rock, gives a much superior class of work, and also cheapens the work over a solid concrete bulkhead. For the purposes of the San Francisco water front, I believe this method of constructing the seawall, or bulkhead, is good practice, and will give the results desired. The concrete wall brought up, as it is in a number of instances, from minus thirty city base to the street line, holds back all the materials on the land side. The remainder of the bulkhead, or seawall, on the San Francisco harbor front, should undoubtedly be built after this plan. During the past two years, a number of instances have been found where the cylinder piers of the old type, now not used, have fallen away from under the wharves. Investigation of this matter will show that, in the deposition of the concrete around the piles in the cylinder, that there was little, if any, cementing power between the different sacks full of concrete placed under water, and when the toredo got an opportunity to eat the pile, at the completion of his work the cylinder necessarily had to fall. This class of work has been abandoned by the State itself in its construction work, but in instances where a concern or corporation constructs a pier, and holds ownership for fifteen years, when it reverts to the State, they have been permitted to use cylinders of this nature, but the inspection, and class of work, has been superior to that of a number of piers north of the Ferry Building.

Taking up and segregating the pier construction, as it stands to-day on the San Francisco harbor front, we have, again taking the Ferry Building as a central point, piers 27, 25, 23, 21, 19, 13, 11, and 7, or eight in all, that are constructed with cylinder piers, after what is known as the Holmes type. South of the Ferry Building, we have piers 10, 12, 34, 42, and 44, constructed after the Holmes type. Of these, pier 34 has been constructed by the Western Pacific Railroad Company, and the last two have been constructed by the Pacific Mail Steamship Company. It was upon piers 42 and 44 that I found steel I-beams acting as stringers, and the salt water had, in two years, eaten about twenty-five per cent of the middle of the web of the beam. In addition to the piers north of the Ferry Building, we have the following of the oldest type; that is, pile and timber construction: piers 3, 5, 9, 15, and 17. Of these, pier 17 is now condemned, and plans are being prepared for a new, modern structure there. Continuing south of the Ferry Building we have, of the old type, piles and timber construction, piers 4, 6, 8, 14, and 16. Pier 54, at the south end of China Basin, constructed by the Santa Fe Railroad Company, is, up to the floor of the shed, a modern structure in every respect. I believe that those desiring the construction of piers, on the San Francisco harbor front, should carry out the work as done by the Santa Fe Railroad Company on pier 54. All the submarine work on this pier is permanent in character. Whenever the ownership reverts to the State, it may construct a shed thereon, and have a permanent, first-class pier in all respects. The State has constructed piers 40, 38, and 36 of a permanent type of construction, and a photograph is here given of pier 36, to show the work of the superstructure, as well as the placing of the cylinders. Pier 34 was constructed by the Western Pacific Railroad Company, and is a Holmes type of cylinder pier. As will be seen, the high class work on the San Francisco harbor front has been done in the past few years, and, if one will but look over the last of these piers, the necessity of the expenditures of a vast amount to bring this work up to a good high standard can readily be seen.

Recently, the voters of California bonded for the sum of nine millions of dollars, for construction work on the San Francisco harbor front. This money can be readily used in remedying the bad conditions on the front, and bring about the type of construction that has recently been started there. Aside from the construction of these piers, the State has jurisdiction over East street. This carries with it the pavement of this thoroughfare. There has been done, in the past two years, considerable paving of basaltic blocks upon a sand cushion. This seems to be the most resistant pavement for the heavy teaming that naturally comes along the water front. Again, in the construction of new seawall near the old Mail dock, there was reclaimed considerable land, which now comes under the jurisdiction of the State. Its value for rental purposes, after being thoroughly reclaimed, is a big factor in the revenues received by the State.

REPORT OF ASSISTANT STATE ENGINEER R. BARKER.

SAN FRANCISCO HARBOR FRONT.

Dredging.

On the water front, there, is a constant deposition of material, which makes it necessary to do some dredging, in order to maintain a sufficient depth of water in the berths. The present dredging equipment is sufficient to do this, under ordinary circumstances. During the past two years, however, the large amount of dredging necessary to prepare for new seawalls, and to provide sufficient water alongside of new piers, has caused this work to get into arrears somewhat.

When an old pier is removed to make way for new work, it becomes necessary to remove all the piles, and stumps of piles, which remain of the old work, so that nothing will remain which might be a menace to navigation.

The site of an old pier which has been standing a long time, and been repaired again and again, becomes thickly studded with old stumps of piles, and their removal is a slow operation. Also, deep and thorough dredging is necessary for new seawalls. In preparing for sections 8, 9, 10, and 11 of the seawall, our dredgers have pulled over 10,000 old pile stumps, and have moved over 500,000 cubic yards of mud. There still remains to be done, in this connection, the dredging on the sites of piers No. 2, No. 20, No. 26, and No. 28, which have been removed. This work will be completed shortly, and conditions will again become normal, unless new seawall construction is commenced.

Tests of Eucalyptus for Piling.

A great many claims have been put forward, that certain varieties of eucalyptus trees would resist the attacks of the teredo and limnoria. This claim was made for the blue gum variety (*Eucalyptus globulus*), which is quite plentiful in California, and is available locally in suitable sizes for piling. The Board decided to make a test of these trees. Accordingly, about 1,200 were purchased, and put into structures where the teredo was known to be active. These trees came from two sources, one in the city of Berkeley, in Alameda County, where they were planted in 1872, and were 37 years of age at the time they were cut. Two hundred and fifty piles were obtained from this source. The balance came from the Parkside Subdivision of San Francisco. These trees were planted in the eighties, and were from 24 to 28 years of age. All of the piles were of the same variety, *i. e.*, *Eucalyptus globulus*. These piles were all driven early in 1909, and have not been in the water long enough, at present, to give any idea as to their ability to resist the marine insects. A large number were used in the construction of one of the ferry slips, at the foot of Market street. It was thought that the wood, being tough and strong, would resist the blows and wear of the ferryboats better than fir piles. The result has been a disappointment. The eucalyptus does not withstand the wear any better than fir, and does not afford enough rigidity for ferry slip construction, on account of its rapid taper and the ease with which the piles are bent.

East Street.

The paving on the newly created thoroughfare, beginning at Channel street, has been begun, and, up to date, 1,200 feet has been completed. All of the city streets which have been extended by the construction of the seawall, and the filling in behind it, which are adjacent to property under the jurisdiction of the Board, have been brought up to grade, and paved.

In doing this work, special 8-inch by 20-inch curbing has been used entirely, the catch-basins and sewers have been of the best type. The paving is of basalt blocks laid on a sand cushion. This paving gives easy access to piers No. 34, No. 36, No. 38, No. 40, No. 42, and No. 44.

Seawall.

During the past two years, the construction of new seawall has been prosecuted as rapidly as the conditions would permit. At the time the last report was written, 11,600 feet existed, as was described in the previous report. This does not include 3,000 feet of seawall which was constructed by the Santa Fe Railway Company, and for which a lease of the territory created was given, at a nominal rental, for a period of fifty years. This latter seawall extends from Channel street to El Dorado street, and incloses what is known as China Basin. According to the terms of this lease, whenever the Board of State Harbor Commissioners shall erect a continuous seawall from its present end, near Mission street, to the intersection of the easterly extended north line of Channel street, with the water front line, there reverts to the State, as a right of way and thoroughfare, a strip 100 feet wide, and extending the full length of the property, together with a right of way, 70 feet in width, on and along the north and south boundaries of the property, to provide a convenient means of ingress and egress to and from the piers which may be built, abutting on this portion of the seawall.

Since the writing of the last report, the following sections of seawall have been constructed, or started, and will be completed by January 1st:

Section 8, 300 feet long, extending from the foot of Mission street to a point between Mission and Howard streets. (Work on this section was started December 6, 1909, and was completed March 10, 1910.)

Section 9, 1,000 feet in length, extending from the foot of Harrison street to a point between Bryant and Brannan streets. (Work on this section was started March 29, 1910, and is not yet completed.)

Section 10, 485 feet in length, extending from the southerly end of section 9, between Bryant and Brannan streets, to the northerly end of section 11, at the foot of Main street. (Work on this section was started August 29th, and is not yet completed.)

Section 11, 600 feet in length, extending from the southerly end of section 10 at the foot of Main street, to the northerly end of section 12, between Brannan and Townsend streets. (Work on this section was started February 22, 1909 and completed October 11, 1909.)

When sections 9 and 10 are completed, which will be within the next four months, the seawall will be continuous, from the foot of Harrison street, to the intersection of the easterly extended north line of Channel street with the water front line; and there will remain a gap of 1,750 feet, between Harrison and Mission streets, to be built, to regain the 100 foot thoroughfare along China Basin.

The design adopted for sections 8, 9, and 10 of the seawall, is a departure from that of all previous sections. It consists of a concrete wall, supported on piles, and having a rock embankment below, and on both sides of it.

The bases of the concrete wall is thirty feet below city datum. The space from this point down to soil, which has sufficient carrying capacity to support it, is filled with rock, and the rock is carried up to a point 13 feet below datum on the outside of the wall, and 22 feet below datum on the inside of the wall. The concrete wall, being supported on piles, will not settle, and although there will probably be a slight settlement in the rock embankment, this will in no way affect the usefulness of the wall.

Section 8 is designed to support buildings for additional ferry facilities, and to afford a base for additional slips. For this reason, no bulkhead wharf was placed upon it. A cross section of this wall is shown.

Sections 9 and 10, are designed to form a base for piers, and have bulkhead wharves upon them. The design for these two sections are identical, and a sketch of section 10 is shown.

Bulkhead Wharves.

The recent bulkhead wharf construction has been entirely of concrete and steel. There has been completed, during the past two years, 2,710 lineal feet of this style of wharf, and 1,485 is now being built. All of this work, with the exception of a piece 425 feet long, just north of the Ferry building, lies south of Harrison street, and, when completed, will form a continuous stretch of bulkhead wharf over 3,000 feet in length.

The 425 feet of wharf to the north, starts at the Ferry building, and extends to the north side of Washington street pier. It forms an approach to this pier, and, on each side of the entrance office, buildings have been constructed for the use of the concerns docking vessels there. These buildings are two stories in height. The lower floors provide waiting rooms for passengers, and are equipped with modern lavatories for men and women. The upper floors provide offices for the steamboat companies.

These buildings are of reinforced concrete throughout, and are sanitary and fireproof. Whenever bulkheads are to be built, to form foundations for permanent buildings of this type, I shall recommend the adoption of concrete.

Concrete bulkhead wharves built in connection with a solid concrete wall, as shown in cross-section on the sketches herewith, have two very decided advantages over wooden wharves. They are absolutely fireproof, and they afford no opportunity for vermin to exist.

Piers.

The following piers have been completed: Piers 40, 38, 36, 34; pier 54 is in course of construction.

The type of construction adopted for piers 38 and 40, described in the last report. Sketches showing the floor plans, and some details of construction, are reproduced herewith.

Pier 36 is provided with a ferry slip, and apron, for the handling of freight cars. The constructon of this pier is similar to that of piers 38 and 40, out to the nose of the ferry slip; from that point on, it is of wooden construction. It was built in this way to afford resiliency, to absorb the shocks of incoming carfloats and ferryboats. On one side of this pier is a shed, and between the shed and the edge of the pier, is a railroad track. The other side of the pier is left open, and is also provided with a track.

Pier No. 34 is, in its general arrangement and dimensions, the same as piers No. 38 and No. 40. It differs in its construction. The pier is supported on piles, protected by a coating of reinforced concrete, applied according to Mr. Howard Holmes' patent. The floor is supported on steel girders, which are protected by concrete. The stringers, floor, and shed are of wood.

Pier No. 54 is entirely of reinforced concrete, except the shed, which is of wood. This pier will have a larger floor area than any other pier in the harbor. It will be provided, on one side, with a depressed track.

Piers of the type of No. 38 and No. 40 are fireproof, no wood having been used in their construction. It is impossible for rats to get in or out of them, when the doors are closed.

The character of the carriers employed in the transportation on the water, at the present time, is entirely different from those of a few years ago. Then, a great deal of carrying was done in sailing vessels of comparatively small tonnage.

These vessels did not have any set schedules for sailing, and discharged or received their cargoes in a leisurely way. This sort of procedure did not require piers which would accommodate a huge amount of freight, as it could be hauled away almost as fast as it was discharged. At present, however, the carriers are principally large steam vessels, carrying from six to twelve thousand tons of cargo. They run on a fixed schedule, and are so expensive to operate that they must lie at the wharf the least possible length of time. Consequently, every possible means of hastening the discharge, and taking on of cargo, is employed. The result is, that an enormous amount of freight is piled upon the piers, and they become congested.

The average width of the piers in this harbor, to-day, is about 100 feet. The largest are 140 feet in width, and many are only 80 feet. The latter are what is left of the earlier construction, when the huge modern steam vessels were comparative strangers here. The two piers leased to the Pacific Mail Company, No. 42 and No. 44, are 140 feet in width, and have a depressed track on one side. These piers were built especially to accommodate the vessels of the Pacific Mail Company, which are the largest coming here at present. Experience shows that these, when one large steamer discharges her cargo on them, are badly congested, and it is impossible to utilize the berth on the opposite side of the dock. Therefore, although by building narrow piers more berthing space is created than by building wider ones, practically only one half of this space is available, on account of the congestion on the floor. The location of a track on one side of a pier, is also a detriment in some respects. In case a train of cars occupy the track, it is manifestly impossible to handle a vessel on this side of the pier, unless the bulk of the cargo is to go directly into the cars, and other cargo can be left in the ship until the cars are removed.

The piers which are contemplated along sections 9 and 10 of the sea-wall, are 209 feet in width, having depressed tracks down their center. This will allow of sheds, 80 feet in width if two tracks are provided, and 86 feet if one track is provided, on each side of the track, and allowing 10 feet between the edge of the pier and the shed.

This will afford floor space sufficient to accomodate a large vessel, on each side of the dock. The tracks will be in a position that will not interfere with the loading and discharging and will afford good facilities for the handling of general cargoes, which must be sorted before going into cars. This arrangement would not permit of putting cargo directly into the cars from the ships tackle, but a system of traveling cranes could be arranged, above the roofs of the sheds, which would transfer heavy pieces of freight directly on to the cars, or on wagons.

I believe that the above arrangement of piers will afford the best facilities for handling general cargo, and will be the most economical arrangement in respect to berthing space. However, I believe that there should be provided, some places on the water front where tracks are placed directly alongside the piers, so that vessels can place their cargo directly into cars, or vice versa, when the character of the cargo is such that this is feasible.

The space between the piers, also, must be widened to accommodate the modern type of vessel. Vessels of this type must be handled with rapidity, consequently, while the cargo is being discharged, and loaded, fuel must be taken on. This is done by having, alongside the vessel, coal or oil barges.

The breadth of large vessels is in the neighborhood of 65 feet, and they usually breast off from the pier about 6 feet, and occupy a space of from 70 to 80 feet. Barges take up, say, from 30 to 40 feet each. If two vessels are in a slip, taking on fuel simultaneously, the vessels and barges will occupy a space approximately 220 feet in width. Therefore, the space in the slip to accommodate all of this traffic should be 250 feet in width.

If the space is made 220 feet, there is ample room for two large vessels to dock at the same time, and, one at a time, they can take on fuel or cargo from barges.

The space allowed between the piers planned for the near future, is 220 feet.

WORK COMPLETED AND UNDER CONTRACT FROM NOVEMBER 30, 1908, TO NOVEMBER 30, 1910.

	Bids received.	Number of bids.	High bid.	Low bid.	Cost.	Completed.	Remarks.
Paving.							
Paving portion of seawall lot No. 8	June 24, 1909	4	29c sq. ft.	27c sq. ft.	$3,074 07	Jan. 13. 1910	
Paving Second street from King south from bulkhead wharf	July 1, 1909	1			2,239 30	Sept. 2, 1909	
Laying asphalt pavement on Section No. 7 of seawall	Sept. 16, 1909	1			1,875 96	Jan. 20, 1910	
Paving East street from King street to North First street, also parts of King, Japan, and Townsend streets	Nov. 24, 1909	4	$34,859 00	$33,350 00	34,245 38	Aug. 4, 1910	
Setting granite and redwood curbing and constructing storm-water catch basins along East side of Illinois street between El Dorado and Eighteenth streets	Jan. 27, 1910	1			2,456 22	Apr. 14, 1910	$170.00 bonus.
Paving Francisco street from the center line of Montgomery street to westerly line of seawall lot No. 5	Mar. 17, 1910	3	5,814 17	4,308 75	4,512 32	May 5, 1910	
Resetting curb and repaving along side of spur track on East street from Lombard street slip No. 2 to north end of grain sheds	May 19, 1910	1			1,204 78	June 23, 1910	
Sheds.							
Shed on Pier No. 8	Feb. 25, 1910	8	1,245 00	750 00	750 00	Apr. 29, 1909	
Shed on Pier No. 21	Apr. 29, 1909	8	16,280 00	12,843 00	12,843 00	Aug. 11, 1909	
Extending shed on Pier No. 21, 165 feet	July 1, 1909	1			5,232 15	Sept. 16, 1909	
Shed for Union Transfer Co. on dolphin, between slips 5 and 6	Sept. 29, 1910	5	1,363 00	1,068 00	1,068 00	Nov. 10, 1910	
Office Buildings.							
Chief Wharfinger's office	Nov. 25, 1908	3	4,842 00	3,489 00	3,489 00	Mar. 15, 1909	
Offices under sheds of Piers Nos. 42 and 44	Feb. 18, 1909	5	4,871 00	2,894 00	2,894 00	Apr. 1, 1909	
Office buildings in front of Pier No. 3	July 15, 1909	6	21,700 00	16,600 00	15,875 00	Dec. 2, 1909	
Offices and storerooms under shed on Pier No. 21	July 22, 1909	1			1,335 00	Aug. 26, 1909	
Wharves.							
Wharf along Illinois street south of Santa Clara street	Dec. 10, 1908	8	93,700 00	57,741 00	56,141 00	Dec. 30, 1909	$1,600.00 retained for coating piles.
Approach to Pier No. 40 and bulkhead wharf between Piers Nos. 38 and 40	July 29, 1909	3	48,800 00	28,463 00	27,563 00	Nov. 18, 1909	
Bulkhead wharf on portion of Section 11	Nov. 4, 1909	8	54,000 00	45,743 00	46,943 00	May 19, 1910	$1,200.00 bonus.
Widening Pier No. 21 on south side and making alterations to shed	Sept. 29, 1910	7	14,000 00	10,877 00			Not yet complete.

Seawall and Bulkheads.							
Concrete bulkheads and office foundation at Pier No. 5	Jan. 28, 1909	6	2,443 00	960 00	960 00	Apr. 29, 1909	Extra work, $854.79
Section No. 8—Seawall	June 10, 1909	3	89,000 00	80,000 00	80,000 00	Mar. 10, 1910	
Section No. 9—Seawall	June 10, 1909	3	286,000 00	261,000 00	256,980 00	Oct. 13, 1910	Less $5,119.30 material not furnished, plus $1,100.00 bonus.
Furnishing rock for completion of Section No. 11—Seawall	July 1, 1909	3	99,910 00	94,045 00	79,206 33	Oct. 28, 1909	
Wingwall from intersection of westerly line of Beale street with northerly line of Brannan street to inner slope of Section No. 11—Seawall	Sept. 30, 1909	1		99c short ton	2,970 00	Nov. 24, 1909	
Section No. 10—Seawall	June 30, 1910	8	144,883 00	119,400 00			Not yet complete.
Piers.							
Pier No. 34	Feb. 25, 1909	9	200,000 00	167,730 00	167,730 00	Aug. 4, 1910	
Pier No. 36	Apr. 8, 1909	8	403,000 00	364,000 00	366,950 00	Feb. 3, 1910	$2,950.00 bonus. Not yet complete.
Pier No. 54	Oct. 28, 1910	5	309,000 00	263,000 00			
Miscellaneous.							
Hot water heating plant for Piers 42 and 44	Feb. 18, 1909	3	1,580 00	1,080 00	1,080 00	Apr. 29, 1909	
Fence for Southern Pacific and Key Route waiting rooms	May 5, 1909	3	2,497 00	1,515 00	1,515 00	July 1, 1909	
Cement, 60,000—100,000 barrels	Apr. 29, 1909	2	$2.30 bbl.	$1.90 bbl.			Not yet complete.
Eucalyptus piles	May 13, 1909	1		12 in., 20c 13 in., 21c 14 in., 22c 15 in., 23c 16 in., 24c	17,676 50	Oct. 18, 1909	
Clam shell bucket for Dredger No. 3	June 10, 1909	3	2,150 00	1,890 00	1,890 00	Oct. 21, 1909	
Covering mooring and standard piles with reinforced concrete	June 17, 1909	5	$2.05 foot	$1.55 foot	4,573 73	June 24, 1910	
Repairing clam shell bucket for Dredger No. 3	June 21, 1909	5	1,385 00	696 00	696 00	Aug. 19, 1909	
13 ticket takers' booths	June 24, 1909	3	1,995 50	1,222 00	1,222 00	Oct. 14, 1909	
Alterations in S. P. baggage room	Aug. 4, 1909	4	4,000 00	2,974 00	3,174 00	Sept. 16, 1909	$200.00 bonus.
Removing Pier No. 2 (Mission Street Wharf No. 1)	Oct. 21, 1909	1		1,947 00	1,947 00	Mar. 17, 1910	
Removing Spear Street Wharf	Dec 2, 1909	1		2,793 00	2,793 00	Mar. 3, 1910	
Girder rails and special work for B. R. R.	Dec. 2, 1909	1		31,623 00	31,844 90	Mar. 14, 1910	
3 portable coke hoppers	Dec. 9, 1909	2	2,496 00	2,175 00	2,175 00	Jan. 27, 1910	
Hot water heating plant for Pier No. 40	Dec. 16, 1909	5	700 00	438 00	438 00	Jan. 20, 1910	
Whitewashing Pier No. 10	Dec. 30, 1909	3	245 00	140 00	140 00	Jan. 20, 1910	
Repairing shingle roofs for one year	Sept. 17, 1908				7,464 18		From Nov. 30, 1908 to Dec. 30, 1910.
Repairing clamshell bucket, Dredger No. 3	Jan. 27, 1910	3	915 00	300 00	300 00	Mar. 19, 1910	
Removing Pier No. 20	Feb. 17, 1910	2	2,995 00	2,985 00	2,985 00	Sept. 27, 1910	
Furnishing, 1,100, more or less, creosoted piles	Apr. 14, 1910	2	43c per foot	42c per foot	33,916 71	Nov. 3, 1910	
Blasting rock at Pier No. 54	June 16, 1910	4	23,500 00	18,600 00			Not yet complete.
Whitewashing shed on Pier No. 5	June 23, 1910	3	720 00	677 00	677 00	July 21, 1910	
Removing car ferry slip of Santa Fe Terminal Co.	July 7, 1910	1			2,900 00	Oct. 6, 1910	

ECONOMIC RESEARCH.

From the beginning of its existence the Government of the United States has been engaged in making surveys of its territory. For many years the principal surveys on the land were conducted by army engineer officers under the direction of the War Department. Later the Department of the Interior took charge of the survey of public lands, and, in 1879-80, the United States Geological Survey was organized under that department with Clarence King as director. The first comprehensive report was published in 1882, by J. W. Powell, director, and was devoted almost wholly to the treatment of structural geology. (The first annual report by King, in 1880, only dealt with the plans of the organization and publication.)

The report of 1883 took up the subject of paleontology and mineralogy. In 1884, the new subjects treated were topography, artesian wells, and paleobotany. The report of 1885 mentions new methods in silver determinations, reports on swamps, and on flora. In 1888, salt making was introduced into the investigation. In 1889, the study of petroleum and gas was taken up, and the researches of the survey reached California in a ''Quaternary History of Mono Valley,'' ''Geology of Lassen Peak District,'' and ''Geology of Quicksilver Deposits of Pacific Slope.''

The report of 1889, discussed the great Charleston earthquake.

The twelfth annual report, 1890, Part 11, was devoted to irrigation. Each succeeding year has witnessed the expansion of the system of investigation, until, now, it includes so many economic subjects that the survey is organized into eight branches, subdivided into twenty-seven divisions, and each division is again subdivided into sections, according to the subjects to be investigated by it. The result of the great diversity of subjects brought under examination and analyses, is that the United States Geological Survey has become a most valuable bureau of research and information.

The survey now employs about 1,000 people, most of whom are experts in their respective specialties. So reliable is the information obtained considered by those interested, that the bulletins and publications of the Survey are eagerly sought, and to supply the demand nearly 1,500,000 copies a year are printed for distribution.

Indeed the ability of these experts is so well recognized, the world over, that the Survey frequently suffers loss by the resignation of its investigators, whose services are sought by other governments and by industrial concerns operating in this and in foreign lands. Men have been called to conduct investigations in Mexico, Canada, Honduras, Peru, China, Africa and other countries.

Other branches of the Federal Government, such as the Office of

Experiment Stations, Office of Public Roads, Forestry Service, etc., are engaged, coördinately with the Geological Survey in conducting investigations along the lines of research pertinent to their respective fields of public service.

The Government, through these coördinate branches, is so well prepared with their several organizations, experienced staffs and complete equipment for accurate investigation along extensive lines of economic development, that their reports are sought for by private and public interests, and their accuracy accepted without question.

COÖPERATIVE INVESTIGATIONS.

Notwithstanding the large appropriations made by the Congress for the prosecution of the several lines of investigation carried on by the Geological Survey and other branches of the Government, the field of operations, extending over the entire country and into foreign territory, is so large and the number of subjects investigated is so great, that progress is often too slow to meet the requirements of the rapid development of growing communities.

To expedite investigations that otherwise would have to wait for the work to reach them in its regular course, many states coöperate with the National Government in prosecuting those lines of inquiry in which they are most interested.

In the matter of topographic surveys, during the fiscal year 1907-08, the United States Geological Survey operated in thirty-two states and territories, surveying 25,658 square miles of new territory, and in 1908-09 it extended the survey in twenty-seven states and added 23,381 square miles to the total surveyed.

Eighteen of the states in which topographic surveys were made in 1909, coöperated with the Government and received a total allotment of $114,700, contributing $153,000 as their share of the cost.

Since 1903 the California Legislature has appropriated various sums for the purpose of coöperating with the several branches of the National Government in the above mentioned surveys and the prosecution of investigations into various phases of economic development. Formerly the appropriations were made specifying a fixed sum for each subject to be investigated, but in the line with a recommendation made by the State Engineer in the last biennial report of this Department, the Legislature, at its session in 1909, made an appropriation as a whole, so that the funds could be apportioned by the Department of Engineering, according to the requirement of each line of inquiry to be undertaken.

In pursuance of this provision of the appropriation act, agreements were entered into with the Director of the United States Geological Survey, and with the Secretary of Agriculture, for coöperative research, and allotments were made of the funds appropriated to cover the State's portion of the expense of making the investigations. The agreements now in force are as follows:

With the Director of the United States Geological Survey, for—
  Topographic surveys,
  Water resources investigations.

With the Department of Agriculture, Office of Experiment Stations, for—
  Irrigation and drainage investigations.

Forestry Service, for—
  Protection of forest areas in San Bernardino mountains.

These agreements are made to run only one year and are renewed annually.

The gathering of the information included in the above subjects, is properly a function of the Department of Engineering, but to provide the Department with the requisite equipment for field and laboratory work, and to maintain the necessary working force would require a large appropriation. Furthermore, the work accomplished by the Department, acting alone, would be duplicate of a great deal that has been done before and that would follow in the regular progress of the work of the other governmental investigators.

By the coöperative arrangement the State obtains the service of already organized corps of experienced investigators possessing all the best apparatus and instruments, and for their service the State is required to pay only for a portion of the operating expenses. As already stated, the appropriations made by the Congress for the matters under discussion are too small to permit of any great amount of work being accomplished in any one state, but it is the policy of the Government to give preference to those states which desire to coöperate, and the practice is to allot an amount equal to the states' appropriation.

It should be borne in mind that, in addition to the many advantages resulting from coöperative work, all moneys appropriated by the State is met by a like amount from the Federal treasury, and nearly every dollar of it expended within the State.

TOPOGRAPHIC SURVEYS.

The character of the coöperative topographic surveys made in accordance with the agreement with the Director of the United States Geological Survey is summarized as follows:

The order in which the field work is prosecuted in different parts of the state is fixed by agreement from time to time as the work progresses.

The surveys are executed in a manner sufficiently elaborate to prepare maps upon scales which are agreed upon for different localities, and exhibit the hydrography, hypsography, public culture, and all public land and county boundary lines are marked upon the ground.

The maps are sufficiently detailed to serve as base maps on which are represented the character of the soils and forests of the area surveyed, and show all principal objects, natural or artificial, such as streams, lakes, shore lines, reservoirs, canals, important wells, springs, railroads, highways, power-transmission lines, principal houses, villages, towns and cities, quarries, mills, and other industrial plants, all with great clearness and fidelity to position.

The hypsography is shown by contour lines with vertical intervals of 5 to 100 feet, according to the smoothness or ruggedness of the terrene. The heights of important points are determined and enduring monuments and bench marks are established, the elevation and location of which are found by precise methods. Along both sides of the Sacramento River, from Suisun Bay to a point several miles above the city of Sacramento, there have been set solid concrete monuments, in which are imbedded aluminum tablets upon which are marked the elevations to the nearest foot.

At frequent intervals all over the territory surveyed are placed other bench marks which consist of iron pipes set solidly in the ground and capped with a bronze or aluminum cap marked in the same manner as the tablets on the concrete monuments. A record of the location, and the elevation in feet and fractions, of all bench marks is kept on file in the office of this Department. All elevations noted by the survey are determined by precise level lines run and checked with the utmost care, and are referred to mean sea level as deduced from long series of observations.

The 1908 report of the Department covered the operations of the topographic survey up to June 30, 1907. At that time 79,381 square miles had been mapped. Under the agreement then in force, and with the appropriation already made, the work was continued and on June 30, 1908, there had been 2,988 square miles added, making 82,379 square miles surveyed. During the year ending June 30, 1909, the survey covered 2,352 square miles of new territory, so that on that date there were 84,731 square miles. For the twelve months ending June 30, 1910, there were 1,513 square miles added, making a total of 86,244 square miles, being about 54 per cent of the area of the State.

The entire Sacramento Valley below the 300-foot contour is now surveyed and the maps will soon be issued. It is hoped that next year it may be possible to issue a map of the valley in one sheet for general distribution.

In addition to completing the topographic survey of the Sacramento Valley, the survey has been extended in the Salinas, Mariposa, Mt. Goddard, Big Bar (Trinity County), and Bridgeport (Mono County) quadrangles, as well as some special work in other places.

The topographic work is being conducted under the direction of Mr. T. G. Gerdine, geographer in charge Pacific Division, comprising Arizona, California, Idaho, Nevada, Oregon, Utah and Washington, with offices in Sacramento.

The report in detail of Mr. Gerdine, for the year ending June 30, 1910 is here appended.

REPORT OF TOPOGRAPHIC BRANCH.

By R. B. Marshall, Chief Geographer, United States Geological Survey.
By Thos. G. Gerdine, Geographer in Charge, Pacific Division.

We have the honor to make the following detailed report of operations in California, for the Topographic Branch, under coöperative agreements of May 25, 1909, and July 5, 1910, for the fiscal year ending June 30, 1911.

The detailed topographic survey was continued north, on the east side of the Sacramento Valley, beginning where the work was closed at the end of the coöperative year, 1908-1909, on the thirty-ninth parallel of latitude, or about on a line east and west through Wheatland, and has now reached the fortieth parallel of latitude, which is approximately a line east and west through Tehama. This, with the previously reported area, comprises a complete survey of the Sacramento Valley, including all the valley from Red Bluff south to Suisun Bay or the thirty-eighth parallel of latitude, a line east and west across the valley a few miles north of Stockton, which is accepted as the north end of the San Joaquin Valley. This makes a complete survey of all the valley lines, lying below the 300-foot contour, which are susceptible to irrigation, under the proposed dam at Iron Canyon.

The maps of the area of the west side of the Sacramento River have been published by photolithography on the field scale of 1:31680, or two inches to the mile, with 5-foot contour interval, each sheet covering an area of about 150 square miles. The maps of this area have also been published by engraving in standard 15-minute quadrangles of about 240 square miles, on a scale of 1:62500, with 10-foot contours. Part of the area between Sacramento and Stockton, east of the Sacramento River, has been, and the remainder will be, engraved in 7½-minute quadrangles on the field scale of 1:31680, or two inches to the mile, with 5-foot contours, each sheet covering an area of about 60 square miles.

The publication on the large field scale of 1:31680 with 5-foot contours by photolithography on the west side of the valley, and by engraving on same scale in 7½-minute sheets on east side, was done to present the data on the most useful scale to the engineers as well as to the public, and it is believed will serve all requirements in planning in detail for any form of irrigation, railroad development, drainage, road construction, county maps, etc.

The horizontal control was determined by triangulation and the vertical control by spirit level lines, all in closed circuits, the datum of which is mean sea level. In making these surveys, the planetable stadia method is used, all points obtained in locating the position of the contours being determined by leveling from the planetable to the stadia rod. These positions average about one hundred to the square mile, and are preserved on tracing linen sheets that can be reproduced by photography on transparent sheets to fit over the photolithograph or engraved 7½-minute sheet for the use of engineers. All public land lines, houses, roads, railroads, water courses, etc., are shown as they existed at the time of the survey.

A detailed tracing is made, showing the land classification as to quality of soil as it appears on the surface to the engineer, the kind of crops produced at the time of the survey, and an accurate line is traced showing the edge of the overflow and timbered areas.

Since the report of January 1, 1907, no additional work has been prosecuted in the establishment of the chain of concrete piers which at that time had been set three miles apart, diagonally, on each side along the Sacramento River from Collinsville to Sacramento. It is urgently recommended that the erection of similar monuments be continued along the river from Sacramento to Tehama, along the

Feather River from Vernon to Marysville, and from Antioch along the San Joaquin River to the Southern Pacific crossing.

The coöperative surveys have been continued in the Salinas Valley. The Salinas 15-minute quadrangle, including all the valley from Castroville as far south as Chualar, has been mapped similar to the Sacramento Valley, and surveys are now in progress in the portion lying south of this quadrangle. It is expected, by the end of the fiscal year, 1911 (June 30, 1911), the Salinas Valley will have been mapped as far south as Metz, including all the area within the valley that is susceptible to irrigation from proposed storage reservoirs in the Arroyo Seco and San Lorenzo Creek. The resulting map will be published by photolithography on the field scale of 1 : 31680, with 5-foot contour interval.

The valley of Sacramento being completed, it is planned to begin these detailed surveys of the San Joaquin Valley, the two comprising the empire valley of the State, perhaps the largest and most fertile contiguous area of land in the United States, if not in the world, where nature has given climatic conditions that permit the highest state of development to be found anywhere on the globe. Therefore, too much thought and energy can not be given to the development of this wonderful asset of the State. Topographic conditions in the San Joaquin Valley are ideal for detail mapping, and work should proceed faster than in the Sacramento Valley where there were large areas of overflowed lands, brush along the rivers, rolling country on the east side, conditions not encountered to any great extent in the San Joaquin Valley. Horizontal and vertical control will have been established by April, 1911, in the area lying between lines drawn east and west across the valley passing through Modesto and through Stockton. It is planned to begin mapping in the vicinity of Stockton in April, 1911.

The maps show the topographic features of the land, such as mountains, hills, valleys, and gulches; all bodies of water, such as lakes, springs, streams, and marshes; the routes of travel, such as railroads, wagon roads, and trails; political boundaries, cities, towns and permanent buildings; the names of natural and other features. They also indicate exactly the location of permanent survey monuments and bench marks, whose positions and whose elevations above mean sea level have been determined by precise methods—monuments that are available as starting points for local surveys.

To the State these maps are valuable in connection with making coöperative agreements with the United States, for making State geological or other surveys, for use in state agricultural colleges, in good-roads investigations, in connection with legislation involving county and town boundary lines, or regarding granting of charters, rights, etc., where a physical knowledge of the country is desirable or necessary. Engineers find maps of service as preliminary surveys for locations of railroads, canals, highways, trolley, and power-transmission lines; for providing water supply for municipal use; in connection with problems involving drainage and irrigation, soil surveys, and for sewerage systems. Miners, land investors, travelers, and tourists use them as guide maps, educational and scientific institutions utilize them in their various courses of scientific study.

The State will have expended in the last two years, $28,000; the United States Geological Survey, $28,000, a total of $56,000, of which a large per cent has been paid to merchants and employees within the State. Therefore, the people in the State have not only received a large percentage of $28,000, contributed by the National Government, and practically all of its appropriations, but has received 1,413 square miles of accurate surveys, with 372 miles of spirit level lines, 105 bench marks, and 76 geodetic monuments, which are permanent in character and will have a constantly increasing value in developing its resources.

The complete survey of the Sacramento Valley and the accurate detailed maps resulting therefrom is an achievement in which both the State and the United States Geological Survey are justified in taking a natural pride. The coöperative surveys have been in progress for a period of seven and one half years, the results being: 8,809 square miles of surveys, with 2,465 miles of spirit level lines, 534 permanent bench marks, 266 trigonometric locations at a total cost of $216,000, which has been borne equally by the State and Federal Government. Maps resulting from these surveys are not only valuable for the many purposes above mentioned, but they show the actual development in the surveyed areas.

RESULTS OBTAINED BETWEEN THE EARLY SPRING OF 1909 AND JANUARY 1, 1911.

Counties.	Quadrangle.	Scale.	Area mapped—Square miles.	Spirit levels		Geodetic location	Remarks.
				Miles.	Bench marks		
Yuba, Sutter	Reeds	1:31 680	58			3	
Sutter	Lomo	1:31 680	58			5	
Sutter	Eddys	1:31 680	44			3	
Sutter	Grimes	1:31 680	13			1	
Sutter, Colusa	Meridian	1:31 680	38	18	6	3	
Sutter	Marysville Buttes	1:31 680	58	4	1	2	
Sutter, Yuba	Sutter City	1:31 680	58	15.5	5	3	
Sutter, Yuba	Yuba City	1:31 680	58	6	1	3	
Yuba	Browns Valley	1:31 680	58				
Yuba	Smartsville	1:31 680	9				
Yuba, Butte	Bangor	1:31 680	34	9	3		
Yuba, Butte, Sutter	Honcut	1:31 680	58	22	6		
Yuba, Butte, Sutter	Gridley	1:31 680	58	14.5	2	2	
Butte, Sutter	Pennington	1:31 680	58	19.5	7	2	
Butte, Sutter, Colusa	French Crossing	1:31 680	58	9	3	1	
Butte, Colusa	Butte City	1:31 680	58	22	7	4	
Butte, Colusa	Butte Creek	1:31 680	58	17	7	2	
Butte	Biggs	1:31 680	58	19.5	6	3	
Butte	Palermo	1:31 680	58	15	5	1	
Butte	Oroville	1:31 680	28	11	4	1	
Butte	Dry Creek	1:31 680	57	16.5	4		
Butte, Colusa	Nelson	1:31 680	57	8	3	2	
Butte, Colusa	Newhard	1:31 680	57	9	2	6	
Butte	Dayton	1:31 680	57	15.5	6	2	
Butte	Durham	1:31 680	57	23.5	5	4	
Butte	Clear Creek	1:31 680	15	6	1	1	
Butte	Keefers	1:31 680	18	9	2	2	
Butte	Nord	1:31 680	57	7	1	2	
Butte, Tehama	Stanford	1:31 680	22	7	2	3	
Monterey, San Benito	Gonzales	1:31 680	38	11	3	3	
Monterey	Soledad	1:31 680	100	40	8	5	
Monterey, San Benito	Metz	1:31 680		10	3	4	
Monterey	Kings City	1:31 680		7	2	3	
Contra Costa, Alameda, San Joaquin	Byron						
San Joaquin	Stockton						Control in progress
San Joaquin, Stanislaus	Tracy						Control in progress
San Joaquin	Peters						Control in progress
San Joaquin, Stanislaus	Modesto						Control in progress
San Joaquin, Stanislaus, Calaveras	Oakdale						Control in progress
San Joaquin, Stanislaus	Ceres						Control in progress

A map showing the entire Sacramento Valley, on the scale of 1:250000, about four miles to the inch, will be published about July 1, 1911, showing the essential features of the detailed maps, to serve as a general base map for the preliminary study in planning drainage, reclamation, irrigation projects, highways, trolley, power-transmission lines, railway construction, and other plans requiring a map of the valley as a whole, with the physical features accurately shown.

R. M. MARSHALL,
Chief Geographer.
T. G. GERDINE,
Geographer in Charge Pacific Division.

WATER SUPPLY INVESTIGATIONS.

Since 1903, the State of California has coöperated with the Hydrographic Branch of the United States Geological Survey, in collecting data concerning the water resources of the State. From the appropriation made by the Legislature for coöperative work the Department of Engineering allotted, for the year 1908-9, the sum of $8,500.00, and, for 1909-10, the sum of $9,000.00, the Geological Survey contributing $11,500.00 and $9,000.00, respectively, for the years named. The scope of the investigation is given in the text of the agreement as follows:

1. Measurement of stream flow; survey of reservoir and dam sites; survey of main diversion canals, and their headworks for the development of irrigation, navigation, municipal water supply, and water power; study of underground waters.

2. Determination of the quality of water, in streams and underground, for purposes of irrigation, navigation and industrial use.

Stream Gaging. The coöperation of the State and Geological Survey has enabled the maintenance of about 70 gaging stations, on the streams throughout the State. Geographically they are distributed in 1910, as follows:

Sacramento River drainage basin	15 stations
San Joaquin River system	16 stations
Owens River	24 stations
Colorado River	4 stations
Various streams along the south Pacific coast	11 stations
Total	70 streams

It is hoped that the field of operation may soon be extended to include the drainage basins of those streams emptying into the Pacific Ocean along the northwest coast, including Russian, Mad, Eel, Trinity and Klamath rivers, upon which some reconnoisance work has already been accomplished.

The importance of a continuous record of stream flow cannot be overestimated. The interests affected by the conditions of flow are navigation, irrigation, domestic water supply, power development, reclamation and flood control.

Navigation is dependent upon a continuous flow, which is necessarily interrupted when that flow shall be permitted to decrease below a certain minimum.

Irrigation requires a reasonably constant flow during certain months of the year, and it is absolutely necessary in inaugurating new enterprises to know the amount and duration of the flow. Instances are not wanting where the lack of such knowledge permitted large expenditures for development which led to disappointment and loss when the development was carried beyond the available water supply. The need for accurate information is manifest when we find municipalities driven by dearth of water for domestic use to look to distant sources among our mountain streams for a supply. There the knowledge of quantity and quality of the water is vital.

The use of electricity for power and lighting is increasing at an amazing rate, and if the increase of population predicted by students of development enterprises shall be realized, a few years will see the demand for this agent grown to enormous proportions.

The amount of power that can be developed by a stream is controlled by its low water flow, unless that may be augmented and regulated by storage reservoirs. A correct knowledge of the potentialities of a stream guides the investor in planning the most economical size of plant.

Protection from floods which periodically overflow vast areas of valuable land in California is a problem that has engaged the earnest study of engineers for several generations.

A few years ago a board of eminent engineers was intrusted with the task of devising a practical method of controlling the floods of the Sacramento River. With the best information at that time available, including the data secured by this coöperative work of the high flood of 1904, that commission estimated that the controlling works would need to be sufficient to convey 260,000 second-feet of water to Suisun Bay. The records of this office, made from the investigations conducted jointly by the State and the United States Geological Survey, show that in 1907, for four consecutive days, March 18th, 19th, 20th, and 21st, the mean flow of all the streams entering the Sacramento Valley, and which would have to be carried through the proposed outlet, was 554,700 second-feet, with a maximum, on the 19th, of more than 679,000 second-feet. This was more than double the quantity calculated for by the commission. Had the works been constructed as outlined by the commission's report, based upon the best information then obtainable, their capacity would have been so inadequate that untold loss of property, and perhaps life, would have resulted, and probably destruction of much of the works themselves.

So it may readily be seen that for the rational solution of the many problems connected with the industrial development of California, it is very essential that careful investigation shall be continued, along the lines above indicated.

Reservoir sites. The survey of possible locations for storage reservoirs in the mountains of California was begun by the United States

Geological Survey several years ago. In the Sacramento River drainage area about 16 reservoir sites have been surveyed, the aggregate storage capacity of which is about 2,700,000 acre-feet of water.

Other sites within the watershed of the San Joaquin River, and several in Owens River basin and elsewhere, have been surveyed. Several of the sites have been described from time to time in reports issued by the Survey.

Quality of waters. The agreement between the State and the Geological Survey, made in 1905, provided for the coöperative study of the natural waters of the State of California, their seasonal variation in composition and in physical characteristics, and the damage which they have sustained by reason of pollution. Stations were established in various parts of the State for the systematic collection of samples of water for analysis, both as to turbidity and mineral contents. Such stations were located in 1905 on the following streams: Feather, Yuba, Sacramento (near Sacramento City), American, Mokelumne, Stanislaus, Tuolumne, San Joaquin (near Lathrop), Merced, Kern rivers; Alameda, San Lorenzo, Arroyo Seco creeks; San Benito, Santa Maria and Santa Ynez rivers; Malibu Creek, Santa Ana and San Luis Rey rivers.

The earthquake of April 18, 1906, destroyed much of the data gathered, and the confusion following interrupted the work of investigation for many months.

The coöperative agreement was renewed in 1907 between the Survey and the State Engineer for the State.

Sampling stations were established on Russian River, Cache Creek, Estrella, Salinas, San Antonia, Nacimiento, Ventura, San Gabriel (2), Santa Ana (2), Santa Ysabel rivers; Cottonwood Creek (San Diego County), and Owens River.

Wherever practicable, these sampling stations were located at the stream gaging stations maintained by the Geological Survey.

In addition to the regular taking of samples extending over a long period of time, single samples were taken at many streams throughout the State where it was not considered expedient to make an extended study

No minute study of municipal water supplies was made, but questions were sent to 171 incorporated towns and cities, requesting information as to their water supply. One hundred and fifty-five of the municipalities replied.

This branch of research having covered the field allotted to it, the investigations were discontinued in 1908, but owing to stress of other matters the publication of the result of the investigations was delayed until the present year.

The report, which was made by Mr. Frederick M. Eaton, hydrographic aid, and Mr. Walter Van Winkle, analyst, is too voluminous and too technical to be abstracted here. It is entitled "United States

Geographical Survey Water Supply Paper No. 237, the Quality of the Surface Waters of California, by Walter Van Winkle and Frederick M. Eaton.''

Mineral springs. Another resource that has been made the subject of research is the various mineral and medical springs in different sections of the State.

Many of these springs are well known as pleasure or health resorts, while others, possessing perhaps as much merit, are little known. A report of examinations and analyses of the waters of such springs, which was conducted by Mr. G. A. Waring, is now in press and will soon be published under the title ''California Springs.''

Underground water supply. This subject is one of vast importance to the State, since, while the surface supply is great, much of it is held by claimants under more or less substantiated rights, and a great deal is not, and can not be made, available for irrigation without enormous expense. It is known that in many localities subterranean waters may be found in abundance, and it has been the object of this line of investigation to search out and define all areas that may be irrigated from underground sources. The largest field explored has been the San Joaquin Valley, which work was discussed at some length in the report of the Department for 1908, and quite fully discussed in a preliminary report by Mr. W. C. Mendenhall, in 1908, as Water Supply Paper No. 222.

Studies of underground sources have been extended to the northern part of the Colorado Desert, and continued in the several valleys of the southwest coastal region, and also of the southwestern portion of the Mojave desert embraced in Antelope Valley.

A report has recently been published, Water Supply Paper No. 224, which described the location, quality, and other characteristics of the various springs and wells in the desert region. Routes of travel and suggestion as to traveling equipment are discussed and the volume should prove of great benefit to prospectors and others who have occasion to traverse the little known desert, where lack of knowledge so often spells death to the traveler who fails to find the infrequent springs hidden away in the canyons and ravines of the forbidding region.

The Water Resources coöperative investigations have been conducted by Mr. W. B. Clapp, District Engineer, and Mr. W. C. Mendenhall, Geologist in Charge of Underground Water Investigations, whose report in detail, follows:

REPORT ON WATER RESOURCES.

Los Angeles, Cal., November 16, 1910.

Hon. Nathaniel Ellery, State Engineer, Sacramento, Cal.

Dear Sir: We have the honor to submit herewith a statement of the work accomplished and the results made available to the people of California by the

Water Resources Branch of the United States Geological Survey, and of the work now under way by this division.

The work of the Water Resources Branch, as outlined in this statement, includes a study of both surface and underground waters, and examinations of the quality of these waters.

In carrying on stream gaging work, every effort has been made to cover all portions of the State in so far as the available funds would allow. The extensive area included within the State, and the importance of its water supply in the development of a great portion of this area, creates a demand for stream flow data much in excess of that which can be collected with the money appropriated for this use. It is therefor necessary to confine the work to localities where this information is of greatest importance, and extending the field as much as possible without detriment to areas where investigations are in progress. It is essential that records of stream flow shall be maintained during a period of years sufficient for the collection of authentic data to determine the maximum, minimum, and mean discharge. This continued record is extremely important in California, as is shown by the data which have been collected. The results obtained from year to year show great variations in discharge, not only in the total flow of a stream, but also in the seasonal distribution of this flow. Only from these continued records is it possible to secure sufficient data for determining the most advantageous plan of development.

Among the purposes for which results obtained by this work are requisite are navigation, irrigation, domestic water supply, water power, reclamation of overflow land and flood prevention. The demands of all these interests are important to California.

The State and Federal Government have expended large sums for the improvement of navigation on the Sacramento and San Joaquin rivers and undoubtedly there will be large additional expenditures. Stream flow records throughout the drainage basins of these rivers will be necessary in the solutions of the many problems involved.

The great valley of California probably furnishes the greatest field for irrigation development in the United States. The integrity of any irrigation system is based absolutely on the amount of water available. The investigation of stream flow is, therefore, of first importance in the reclamation of lands in this territory.

The large cities of California are looking to the streams of the Sierra Nevada for their domestic water supply. Records of the flow, and a determination of the quality of the water of all available streams, are of the greatest value in determining the source from which water in sufficient quantity and of the greatest purity can be obtained.

Water power development is one of the great factors in the industrial progress of the State. With the wonderful advance made in electric transmission, it is possible to utilize the great water power of the streams throughout the State. The amount of water power that may be made available is dependent on the flow of the streams, and in many cases is governed entirely by law water conditions. It is therefore of the greatest importance that reliable stream flow data, embracing extreme low water conditions, be available.

Large areas of the delta lands of the Sacramento and San Joaquin rivers are annually overflowed. Extreme floods do great damage from overflow of protected areas. These delta lands are the richest in the State, and if permanent reclamation can be accomplished, would add greatly to its productive wealth. It is unnecessary to dwell on the fact that any consideration of flood prevention must be based on a thorough knowledge of stream flow throughout the entire drainage area tributary to the overflowed district.

The stream gaging work during the past two years has been continued along the same plan as established in the precedng years. Most of the older stations have been continued and a few additional ones established. Additional data on the flood flow of streams discharging into the Sacramento Valley was obtained during the winter months of 1909. The Sacramento River at the gaging station at Iron Canyon, four miles above Red Bluff, reached the highest stage of record; the peak maximum discharge being 277,000 second-feet and the mean daily maximum being 254,000 second-feet.

Stony Creek also reached the highest flood stage of record. Other tributary streams of the Sacramento River reached exceptionally high flood stages but did not exceed the flood discharge of 1907. During the past summer of 1910, exceptionally low water conditions have prevailed throughout Central and Northern California. Special miscellaneous low water discharge measurements were made in that territory for the collection of data bearing on the minumum flow of the streams. The determination of extreme low water flow of streams on which no storage is possible, is of great importance. The low flow of such streams is the governing factor bearing on their utilization for power development or for irrigation.

The following is a list of the gaging stations maintained on November 1, 1910:

SACRAMENTO RIVER SYSTEM.

Sacramento River	Near Red Bluff
Cottonwood Creek	Near Ono
Stony Creek	Near Fruto
Little Stony Creek	Near Lodoga
Feather River	Near Prattville
Feather River	Near Oroville
Feather River	Near Big Bend
Butte Creek	Butte Valley
Yuba River	Near Smartsville
Bear River	Near Sheridan
Cache Creek	Near Lower Lake
Cache Creek	Near Yolo
American River	Near Fair Oaks
Putah Creek	Near Winters
Mill Creek	Near Los Molinos

SAN JOAQUIN RIVER SYSTEM.

San Joaquin River	Near Pollasky
San Joaquin River	Herndon
Kern River	Near Bakersfield
Tule River	Near Porterville
Kaweah River	Near Three Rivers
Kings River	Near Sanger
Merced River	Near Merced Falls
Tuolumne River	Near La Grange
Modesto Canal	Near La Grange
Turlock Canal	Near La Grange
Stanislaus River	Near Knights Ferry
Stanislaus Canal	Near Knights Ferry
Calaveras River	Near Jenny Lind
Mokelumne River	Near Clements
Cosumnes River	Near Michigan Bar
Tulare Lake	Near Lemoore

SOUTH PACIFIC DRAINAGE.

Arroyo Seco	Near Soledad
Santa Ynez River	Near Santa Barbara
Santa Ynez River	Near Lompoc
San Gabriel River	Near Azusa
Santa Ana River	Near Mentone
San Luis Rey River	Near Pala
Santa Ysabel River	Near San Pasqual Valley
San Diego River	Near Lakeside
Sweetwater River	Near Descanso
Cottonwood Creek	Barrett Dam, near Jamul
Southern California Mountain Water Co. Canal	Near Jamul

OWENS RIVER SYSTEM.

Owens River	Near Round Valley
Owens River	Near Tinemaha
Owens River	Whitney Bridge
Rock Creek	Near Round Valley
Pine Creek	Near Round Valley
Bishop Creek	Near Bishop
Baker Creek	Near Big Pine
Birch Creek	Near Tinemaha
Big Pine Creek	Big Pine
Tinemaha Creek	Tinemaha

Taboose Creek	Tibbetts
Goodale Creek	Tibbetts
Sawmill (Eight-mile Creek)	Near Independence
Thebaut Creek	Near Independence
Oak Creek	Near Independence
Independence Creek	Near Independence
Shepard Creek	Near Thebe
Bairs Creek	Near Independence
George Creek	Near Lone Pine
Tuttle Creek	Near Lone Pine
Cottonwood Creek	Near Olancha
Ash Crook	Near Olancha
Division Creek	Tibbetts

COLORADO RIVER DRAINAGE.

Colorado River	Near Yuma, Arizona
Alamo River	Near Brawley
New River	Near Brawley
Salton Sea	Near Salton (Mecca P. O.)

Extensive reconnaissance work has been done during the past summer and fall months, in connection with the extension of the stream gaging work. Gaging stations are to be established on the principal streams in the North Pacific Drainage, including the following rivers: Klamath, Trinity, Eel, Russian and Mad rivers, and some of their important tributaries. The expense of carrying on work in this territory is heavy and only a limited number of stations can be established at present. New stations are to be established on the Pit River, at Henderson, and on the upper Sacramento River, at Castella.

Coöperative arrangements have been completed with the Forest Service, whereby a large number of gaging stations are being established along the upper reaches of the principal rivers and their tributaries and within forest reserves. At least fifty of these coöperative stations will be established by January 1, 1911.

The Forest Service has detailed two of their most competent men to assist in making discharge measurements at these stations and gauge readings are to be made by the Forest Rangers. It is not expected that continuous readings can be carried on, as many of the stations will only be accessible during the summer and fall months, but much valuable data will be collected and the mean low water flow, which occurs during this period, obtained.

During the fiscal years July, 1905, to July, 1909, investigation of the quality of the water in the streams throughout the State was carried on under coöperative agreement between the State and the Federal Government. This investigation was discontinued July 1, 1909. A report of the progress of this investigation was made to you on November 28, 1908, and incorporated in your 1908 report. The final results of these investigations have been published in a document known as Water Supply Paper No. 237 and are available for free distribution. The information contained in this report includes the analyses of the waters of a large number of the principal streams of the State and many of the smaller tributaries.

Investigations have been continued by that division of the Water Resources Branch of the United States Geological Survey which deals especially with Underground Water Supplies.

A series of five documents, known as Water Supply Papers Nos. 137, 138, 139, 142 and 219, each of which deals with ground water conditions in a part of that general region known as the valley of southern California, have been prepared and issued for free distribution to the people of the localities concerned. Three of these, namely Water Supply papers Nos. 137, 138, and 139, deal with subsurface water conditions in the Coastal Plain extending from Los Angeles to the Pacific, and from Santa Monica to Santa Ana. A fourth, Water Supply Paper No. 142, contains the results of a special study of the ground water resources of the San Bernardino Valley; and the fifth, Water Supply Paper No. 219, contains a discussion of the irrigation enterprises, as well as the ground water supplies, in the foothill district of southern California, extending from Pasadena, on the west, to Cucamonga, on the east.

Early in the period of coöperation, studies were begun of the great subsurface water basin of the San Joaquin Valley, and since, because of the great extent of this valley, and the complexity of the problems involved, a considerable period must elapse before the various phases of the subject could be satisfactorily considered and discussed, it was deemed advisable to make the partial results already secured available for the use of the people of that section. This was done by the publication of Water Supply Paper No. 222, the sixth of the series thus far issued to the people of the State. A seventh paper, Water Supply Paper No. 224, discussed the various springs and wells in the deserts of southern California and adjacent parts of Nevada, and is especially intended to be of aid to prospectors and others who have occasion to enter the little known and poorly watered desert areas. Routes of travel, and the proper equipment for desert journeys, are discussed in this publication, whose major portion, however, is devoted to a description of the watering places themselves; their character, reliability and the means of access to them. It is expected to issue a second and revised edition of this volume at no very distant date.

The eighth, and last of the documents dealing with ground waters that have thus far been issued as a result of coöperation between the State and the United States Geological Survey, is Water Supply Paper No. 225, which treats of the artesian supplies in the northwestern arm of the Colorado desert, known as the Coachella Valley. But in addition to these more complete reports, chapters on the fluctuation of ground levels in the valley of southern California, as a result of supply through rainfall on the one hand, and drainage through development on the other, have appeared as chapters in the progress reports on stream measurements, Water Supply papers Nos. 213 and 251.

There is now going through the press, and will be available for distribution in a short time, a ninth paper dealing with the subsurface waters of the Antelope Valley, in the vicinity of Lancaster, Los Angeles County. This section has been settled rapidly of late, and, as irrigation is necessary throughout the greater part of it and surface waters are inadequate, the underground supplies are of fundamental importance.

During the past three years, the necessary field studies have been carried out to secure data for a report upon the watering places and mineral springs of the State. The field work for this report has been completed, and the manuscript is in hand, in rough form. Some time must elapse before it is sent to the printer, but it is believed that the report, when finally issued, will prove to be one of the most widely useful of the series.

When Water Supply Paper No. 222, dealing with underground waters of the San Joaquin Valley, was published it was recognized as, and was stated to be, preliminary, merely. During the current year coöperative funds have been used to obtain additional data in this important field. At the present time a survey of the chemical character of the ground waters is under way, since their mineralogic character varies widely and is of the utmost importance in their utilization. In addition to this, a study is being made of pumping plants, and the costs of pumped water under the various conditions that obtain in the valley. The results of these researches will eventually be embodied in a final report on the San Joaquin Valley ground waters.

During the year 1910, the Geological Survey has been in coöperation with the Los Angeles aqueduct, in a research in the Owens Valley, which promises to supply much needed fundamental data on the important subjects of absorption of normal flood flow by valley débris, evaporation from soil surfaces with the ground water level at various depths below the surface, transpiration by growing plants, etc. Through the courtesy of the aqueduct officials, it is planned to make these important results available to engineers and geologists by publishing them in a Water Supply paper.

Finally, the greater part of the necessary data, which are to serve as a basis for a paper upon the ground water resources of the rapidly growing San Jacinto Valley, in Riverside County, have been secured. This report, when issued, will complete the series originally planned for the southern part of the State, but if the coöperative agreements continue in force, several districts in the central and northern sections, in which ground waters constitute an important resource, will be investigated.

The work that has been completed and the work that is now in progress by the Water Resources Branch of the United States Geological Survey, are the result of coöperation between the State and the Federal Bureau, and are properly regarded as the joint product of the two organizations, each contributing equally from the coöperative funds. For more than two years past, the Department of Engineering has been the State's direct representative in this work, and we desire to utilize this opportunity to express our appreciation of the hearty support accorded by you to the plans, as submitted by the Federal representatives, and to the efforts of the field workers.

Yours very respectfully,

W. B. Clapp, District Engineer.
W. C. Mendenhall,
Geologist in Charge of Underground Water Investigation.

IRRIGATION INQUIRY.

The first coöperation between the State and Federal Government in the study of irrigation was effected in 1905, under the direction of Dr. S. Fortier, representing the Office of Experiment Stations of the Department of Agriculture. Coöperation in this line of investigation has continued to the present time.

The agreement for the joint inquiry specified that it should embrace the study of the following subjects:

A. The duty of water and the factors which influence it.

B. Methods of irrigation employed in California with a view of securing better practice.

C. Best methods of organizing communities and districts so as to secure stable supply and equitable and economical distribution of the water to users.

D. Methods and costs of pumping.

E. Loss from canals through seepage, evaporation and wasteful methods, and the best means of reducing the same.

F. Drainage problem.

In the report of this Department for 1908 the chaotic condition of the laws of California relating to water rights was pointed out and the need of reformation of such laws was discussed. Following up the ideas there promulgated, when the coöperation agreement was renewed, for the year 1909-10, it was provided that the inquiry should include a new subject, to wit:

G. Methods of establishing and protecting rights to water and their effect on the best utilization of the water resources of the State.

Investigations under the first topic, duty of water, were first confined to attempts to determine the amount of water being used by irrigators in producing various crops in different localities, but in most cases the difficulty of getting correct measurements and the excessively wasteful methods of application gave results of but little value.

Later, records of the use of water were obtained from commercial irrigating companies that are more reliable. For about three years, in coöperation with the University of California, experiments have been made at the University Farm at Davisville under conditions created for the purpose, so that the results promise to give exact information. This data has not yet been arranged for publication.

B. Observation of the methods of applying water to the land has been supplemented with the experiments. This also at the University Farm.

C. Study of the operations of the district irrigation law, of the failures under the "Wright Irrigation Law," and the success of those districts working under the provisions of the law as amended by later statutes into its present shape, which is believed to be a model law for communal administration of irrigation enterprises.

The history of the law and its application will be made the subject of a report soon to be published.

Coöperation of mutual irrigation companies will be treated of in a bulletin soon to appear.

D. Method and cost of pumping was discussed at some length in the last report of this Department, and has been more fully exploited in bulletins since issued. With the advent of cheap electric power the development of underground waters for irrigation will attain very great proportions. The research so far accomplished, incomplete as it is, shows that there are large areas of arid and semiarid lands underlain with an abundant supply of water, and already the cheapening of power through the long distance electric transmission lines has stimulated the growth of pumping methods. The increase in the number of pumping irrigation plants has been particularly rapid in southern California, where practically all of the surface supply is conserved and used and still does not offer nearly enough to meet the demands of those phenomenally rapid growing communities.

E. Loss from canals. This subject has received much study and research. Measurements of loss from canals have been made and experimental tests applied to ditches constructed for that purpose. Much data has thus been obtained but further research will be necessary before conclusions may be published.

F. Drainage problems are demanding serious attention in many irrigated sections. Lands that were once valuable have become ruined by "water-logging." Orchards and vineyards that were valued at $300.00 an acre, and more, have died—been drowned—and the land given over to wild pasture. Extensive experiments have proven that most of these lands can be reclaimed and restored to their original producing capacity. The results of these experiments are published in Bulletin No. 217.

G. Methods of establishing water rights. This subject has received special attention during the last year and much has been accomplished but the subject is so deep and broad and involves the study of so many interests that much research must yet follow before complete solution of its many problems shall be found.

The investigations into the several subjects above discussed are being conducted by Mr. Frank Adams, in charge of Irrigation Investigations, whose special report is hereto appended:

REPORT ON IRRIGATION INQUIRY.

BERKELEY, CAL., November 30, 1910.

Hon. Nathaniel Ellery, State Engineer, Sacramento, California.

DEAR SIR: The irrigation investigations conducted by this office during the past biennial period in coöperation with your Department have been carried on largely as outlined in the progress report of Mr. F. W. Roeding, then in charge of these investigations in California, submitted November 26, 1908, and printed in your biennial report for 1907-08. Before detailing the results obtained and outlining the investigations now in progress, I desire to urge as forcibly as I can further consideration of the matter of water-right legislation, the necessity for which was discussed by you, quite fully, in your last report.

THE WATER-RIGHT SITUATION IN CALIFORNIA.

It can be assumed at the start that no question relating to irrigation, in California or any other State, approaches in importance the speedy and certain determition of water rights.

That California has been less fortunate in her water-right laws than most of her sister states requiring irrigation has long been the settled conviction of those familiar with procedure elsewhere. As you brought out in your former report, the entire foundation of water rights in this State was laid when, at best, only a few thousand acres of land were irrigated, and before the future importance of irrigation in California was half realized. Then it seemed a most natural thing to frame into statute law the simple plan of merely posting a notice of appropriation, and taking water, which the daily custom of pioneers had already established.

But, as you know, this apparently simple plan of the pioneers, although copied and for a time followed by all of the western states, has not proved an adequate foundation for water titles where water for irrigation possesses such overshadowing importance as it does in California. Resulting litigation has compelled irrigators and irrigation companies to spend millions of dollars protecting property which the State in its generosity sought to give freely. Realizing these things, several public spirited attempts have been made from time to time to provide a plan that would prove adequate; that would enable an appropriator of water for beneficial use to acquire without protracted litigation a water title as stable as his land title, and at the same time insure the full and proper use of the last acre-foot or gallon of water available for and needed by the varied industries of the State.

Thus far all efforts to improve the situation and to overcome as far as practicable the evil effects of inadequate earlier legislation have failed of accomplishment. This was not because the proposed laws were necessarily unwise, but because they were misunderstood. But these efforts have had great educational value and could well serve as a basis for a proper adjustment of the matter at this time.

EARLIER EFFORTS TO IMPROVE IRRIGATION LAWS.

In 1878 the legislature of California passed the first law designed eventually to provide proper public control of the appropriation and use of water. This law created the office of State Engineer for "the acquirement of data upon which the State might formulate a policy and frame legislation respecting irrigation matters." In 1880 the State Engineer appointed under this act submitted strong recommendations as to revision of the water-right laws then in force, covering not only the definition of existing rights and the acquirement of new ones, but also suggesting the formation of irrigation districts along the lines subsequently put into force by the Wright Act of 1887. The principles embodied in the State Engineer's recommendations as to the definition of existing water rights and the acquirement of new ones, although discarded by California, were later made the basis of the best irrigation laws now in force in this country. The office of State Engineer continued in existence for a period of ten years, during which a large amount of field investigation was carried on and a number of maps and two large special reports published. In spite of the large amount of work done, and the definite recommendations made, this office went out of existence without leaving behind any concrete results in the shape of irrigation legislation. Had it been continued and properly supported, California would to-day undoubtedly stand foremost in matters pertaining to the acquirement and definition of titles to water for irrigation and other purposes, instead of being conspicuously absent from the list of states that have enacted modern laws on this subject.

THE WATER AND FOREST ASSOCIATION BILL.

The next movement to change the water-right laws in California was that made in 1903, following an exhaustive examination of irrigation conditions and needs on a number of the important streams of the State, from Sweetwater River on the south to Yuba River on the north. A study of water laws and their workings was made by the Office of Experiment Stations, while the United States Geological Survey gathered data on water resources. In both of these investigations substantial assistance was rendered by the California Water and Forest Association, and at their conclusion this association appointed a commission to frame a new water law. This commission was composed of the Chief Justice of the California Supreme Court, the presidents and the professors of civil engineering of the two universities, the chief of irrigation investigations of the Department of Agriculture, the chief hydrographer of the geological survey, and two of the leading irrigation lawyers of the State. The bill framed, although not unanimously reported in some matters whose constitutionality was questioned, representing the mature judgment of the commission as to the needs of the State in the matter of irrigation legislation. Although radical in some of its provisions, it is the belief of many whose opinions are entitled to weight that this bill would not have disturbed any valid existing rights, yet it was met with aggressive opposition from the sections of the State in which rights to water had become most nearly settled by past litigation and the available supply was most fully appropriated. If the proposed bill had received the consideration justified by the character of the commission that prepared it and the great expense of the investigation on which it was based, many provisions to which no valid objection was urged might have been enacted into law. On the contrary it was defeated in legislative committee without a hearing; and although reintroduced at the legislative session of 1909 but not pressed for consideration, has had no influence whatever on actual legislation.

DISCUSSION BEFORE THE COMMONWEALTH CLUB.

The last attempt to improve the laws did not extend to the point of framing a bill or of urging a change before the legislature. It was rather confined to a thorough discussion before the Commonwealth Club of California of the previous attempts at legislation and of what seemed practicable in the light of previous opposition. The result of this discussion, which extended over more than a year and during which some of those who most strongly opposed the bill of the Water and Forest Association expressed a willingness to support any reasonable measure that might be proposed, was an agreement by those present that another effort to better the existing laws should be made. The plan outlined, however, was less radical than that proposed in the Water and Forest bill. This agreement by the Commonwealth Club was reached in 1905, but no move has been made to carry the matter any farther.

RECENT LEGISLATION IN OTHER STATES.

At the time the Water and Forest Association bill was presented to the legislature, but three states—Colorado, Wyoming, and Nebraska—had provided systems of public control of the acquirement and definition of water rights, or had sought by general legislation to control the distribution of water. Since then, with the exception of California, Montana, Washington, Kansas, Texas, and Arizona, all of the other western states have fallen into line with improved legislation of some kind. In the first place, with the exception of Colorado, they provide for the collection by public officials of all data necessary as a basis for the definition of existing and future rights to water. This eliminates at the start one of the worst evils with which California has met in water-right adjudications, viz.: the basing of decrees almost wholly on the testimony of those claiming the water, with no regard whatever for the rights of the public to the water not yet appropriated or not being beneficially used. In their method of adjucating rights after the collection by public officials of the data necessary on which to base them, Nebraska, Nevada, and Oregon now follow Wyoming, by having adjudications made as administrative acts by state administrative boards. In Utah, North Dakota, South Dakota, Oklahoma, and New Mexico the physical data collected by the state officials are made the basis of adjudication by the courts. In the four last-named states and territories the data are submitted to the Attorney General, who brings the actions for adjudications. In Idaho physical data are collected by the State Engineer but do not form a basis for general adjudications initiated by parties claiming water rights.

In the procedure for acquiring rights to water in the first instance, ten of the seventeen states and territories comprising the arid and semiarid sections now exercise complete supervision, thus doing away with the many uncertainties of the earlier plan of merely posting a notice and taking water. The essential feature of the supervision exercised requires proof to be made of actual appropriation and use and therefore eliminates from the public records filings that have no validity but which give a color of right which in truth does not exist. An eleventh state—Montana—has adopted the principle of the other states but only applied it to appropriations from streams on which the rights have been adjudicated.

NEEDED CHANGES FOR CALIFORNIA.

No attempt will be made in this report to outline irrigation legislation for California, the belief being held that this is a function properly belonging to the state government. But, assuming that the general laws of private property rights to water which the legislature and courts have provided do not need revision at this time, it seems proper to call attention to such changes as appear fundamental if any material improvement over present conditions is to be accomplished.

1. Under existing law, suits to determine water rights are only binding on the parties to the suit. Water rights therefore are open to attack in subsequent suits by other or later claimants from the same source. A provision that in all suits to determine water rights all claimants from the same source shall be parties would eliminate most of the present litigation and thereby greatly increase the value of the rights decreed.

2. In order to prevent more water being decreed to irrigators or other claimants than can be beneficially used, thus insuring the largest possible development, the public should be represented at all water-right litigation and present testimony as to the physical data involved, such as the areas irrigated, duty of water, necessary allowances for seepage losses, etc.

3. In order to enable unappropriated waters to be utilized without fear of future attack and to give stability to existing rights, there should be a definition and listing of all rights that have accrued either by court decree, by appropriation and use, or by prescription.

4. In connection with the acquirement of new rights, provision should be made for requiring proof of future appropriations and for their orderly listing by streams in such place or places as will make them accessible for reference.

5. Provision should be made for eliminating from the operation of any law regarding the definition and listing of existing rights any streams on which the rights of all claimants therefrom have already been settled by litigation, and on which there is no question of non-beneficial use of water already appropriated; except that such streams should be included on request of the irrigators therefrom.

6. Provision should be made for the distribution of water under public authority in accordance with established rights, at least when desired by a reasonable number of the appropriators from a given stream.

As to the desirability of the above no doubt is known to have been expressed in any of the extended discussions of the question that have occurred in this State. But as to the best method of approaching the subject at this late date in irrigation development, much difference of opinion has existed. That an ideal law can not be passed is self-evident, but that present conditions can be measurably improved without disturbing any vested right seems equally certain.

THE PRESENT NEED FOR ACTION.

The efforts to enact better laws regarding the acquirement and protection of water titles above outlined received the mature and very careful consideration of some of the best minds of California. That nothing resulted beyond investigation, recommendation, and discussion does not prove that the need for improvement is less than has been claimed. On the contrary, it but shows the extent of both the public and private interests involved and that must be fully and fairly considered before any adequate progressive policy can be put into effect.

It is the belief of this office, based partly on recent interviews with some of those prominent in former discussions of the subject, that a reasonable and fair revision of the water-right laws could be accomplished at this time, if undertaken under the proper auspices. It is its further belief that a commission appointed under authority of the legislature would be the proper body to consider the entire question and present such recommendations to a succeeding legislature as a thorough investigation by such commission would show to be desirable and necessary. Whatever is done would be done with the sole purpose of bringing about the largest measure of improvement consistent with the obligation of the State to protect fully the rights that have become vested under the procedure previously provided. A commission, appointed with such an end in view could accomplish results whose benefits would extend to every irrigated acre in the State and quicken the development of irrigation on some streams to a degree almost immeasurable at this time.

INVESTIGATIONS CONDUCTED AND BULLETINS ISSUED IN 1909 AND 1910.

Sacramento Valley. The report on irrigation in the Sacramento Valley by Dr. S. Fortier, chief of irrigation investigations, mentioned in the report of Mr. Roeding two years ago, has been issued as Bulletin No. 207 of this office and quite widely distributed. This report gives the results of investigations of irrigation under Yolo County consolidated water system, of Yolo County; the old Central Canal, of Glenn and Colusa counties; the Butte County Canal, of Butte and Sutter counties; and of irrigation along Stony Creek, in the vicinity of Orland. The introduction takes up the early efforts toward development of Sacramento Valley, soils, crops, relation of climate to irrigation, overflow lands, water supply, and the use of water, and urges the coöperation of state, federal, and private enterprise in the irrigation and reclamation of the vast area included in this valley.

Irrigation in California. This is a general report on irrigation in California by Mr. F. W. Roeding, being one of a series of such reports covering all of the irrigated states and territories of the West. Discusses climatic, topographic, and industrial situation, water resources by streams, lands products, history of irrigation development, water laws, irrigation enterprises, irrigable land under existing systems and cost of preparing land for irrigation.

Drainage of irrigated lands. Investigations of questions relating to the drainage of irrigated lands have been confined chiefly to the section around Fresno and to Modesto and Turlock irrigation districts. The first work at Fresno consisted of a preliminary survey in 1902, and the preparation of a preliminary plan for reclaiming about 28 square miles southwest of Fresno. In 1907 and 1908 experiments were made on two tracts to determine and demonstrate the feasibility of drainage in reclaiming to their original high value the large areas of land of which these two tracts are typical. At the same time sufficient surveys were made to show that the area for which a drainage system should be provided approximated 200,000 acres, of which 30,000 acres, once some of the most productive land in Fresno County and worth at least $350 per acre, had already been rendered unproductive. The results of the investigations around Fresno, also on account of the beginnings of drainage work in Modesto and Turlock districts, were published in Bulletin No. 217, of this office, by Dr. S. Fortier and Mr. V. M. Cone.

That drainage is as essential to the section around Fresno and to portions of Modesto and Turlock districts as irrigation and cultivation, is no longer a question about which there can be the slightest doubt. That its accomplishment on any adequate scale at Fresno means the overcoming of local apathy and local opposition is equally plain. What will be done is problematical. The cost has been shown not to exceed $15 per acre for the entire area embraced. The drainage district law is admirably adapted to the conditions present. No further work is necessary from this office until there shall have been developed a definite and general demand for carrying into effect the plans already outlined or some others equally effective. If such a demand is developed there is no doubt that all assistance possible will be rendered.

The cleaning of canals. Wherever irrigation water carries much solid matter in suspension and when the climate is hot and the grade of canals is low, much trouble is experienced in keeping canals free from silt and sand deposits and tules or other aquatic growth. In California the most trouble is found in the south. So serious is this question that several years ago Mr. C. E. Tait, of this office, was detailed by the chief of irrigation investigations to make a special report on the best means of keeping canals clean. In connection with this report Mr. Tait has visited the most important canals of the entire southwest, including Mexico, and will prepare his report during the present winter. While the field investigations on which this report will be based have not been entirely paid for out of the California coöperative funds, it is largely a coöperative report, and will be so issued.

Seepage losses from canals. Seepage losses were measured on the main canals of Modesto and Turlock irrigation districts in 1909 and on the main canal of Turlock

District in 1910, to determine the chief factors governing such losses. These measurements, made in 1909 by Mr. Paul Bailey and in 1910 by Mr. Ralph D. Roberton, seemed to show a definite relation between head and velocity and seepage. To check these results, Mr. V. M. Cone constructed an experimental flume at Modesto in 1910, and carried on a rather complete series of tests, with heads ranging from .3 foot to 2 feet and velocities up to 5 feet per second. The results have not been finally worked out, but they seem to bear out the relations found by the canal measurements in 1909 and 1910.

Duty of water measurements. Duty of water measurements have been continued on the experimental plat on the University Farm, at Davis, and records of water used on a number of farms in San Joaquin Valley have been kept. In addition, complete records of the water used throughout the San Joaquin and Kings River Canal system were obtained in 1909. On the University Farm the experiments have been made chiefly to ascertain the relative effects of applying different amounts of water. A continuation of this work for one or two seasons more is necessary, before the results may be considered conclusive. The duty of water and the effects of irrigation on corn and barley have also been experienced with to a small extent at Davis.

Pumping for irrigation at Pomona. The report by Mr. C. E. Tait on the use of water pumped from wells at Pomona, for which the study was begun in 1905, is now completed and in press. This report covers very thoroughly the irrigation questions connected with the growing of citrus fruits and will be one of the most valuable reports dealing with irrigation in southern California ever published by this office.

The use of concrete in irrigation. The report on this subject begun by Professor B. A. Etcheverry in 1908 is now in press and will be ready for distribution early in 1911.

The delivery of water to irrigators. The bulletin on this subject referred to in the report of Mr. Roeding has been issued, and will be ready for distribution within two weeks.

Manuals on the irrigation of alfalfa, orchards, and sugar beets. These have been completed and issued during 1910 and copies distributed to a very large number of irrigators in this State. They cover the practical questions involved in the irrigation of these crops and should be in the hands of every irrigator in California.

DISTRIBUTION OF IRRIGATION BULLETINS.

The distribution of the bulletins published by the United States Department of Agriculture is in charge of the division of publications, at Washington, but applications for such bulletins from irrigators in California are usually received by this office at Berkeley and forwarded to Washington for attention if the bulletins requested are available. The especially practical nature of such recent bulletins issued as those dealing with the irrigation of alfalfa, orchards, sugar beets, and grain have greatly increased the number of applications received, and at least 50,000 bulletins have been sent out through this office, to California irrigators during the past six months.

INVESTIGATIONS NOW UNDER WAY.

The limited funds at the disposal of this office for coöperative irrigation investigations in California and the large opportunity for useful work make the task of selection a difficult one. Practically every irrigation condition known in this country is found here in large or small degrees. While the annual precipitation ranges from nothing or only a trace on portions of the southern desert to excessive amounts in the mountains of the north, it is a land of rainless summers. Without irrigation the moisture necessary to produce plant growth in either inadequate or comes to the land from one to six months before it is most needed. While thousands of acres are profitably farmed without irrigation, there are few sections of the State where some unirrigated crops do not suffer for lack of moisture at some period of their growth and when at least a light irrigation, if available, would not increase production. The question of irrigation is therefore state-wide, and irrigation investigations and experiments designed either to extend the use of water or to bring about greater economy in its application will be necessary and profitable so long as there is a single acre-foot of water wasted that might be applied to the land.

STUDIES OF IRRIGATION POSSIBILITIES.

Studies of the possibilities of irrigation extension in localities in California where little or no irrigation is now practiced was begun during the summer and fall of 1910 and will be continued the coming season. The sections designed to be covered by these studies are Russian River, Sonoma, and Napa valleys, in the north, and portions of Santa Barbara and Ventura counties in the south. In these sections under consideration the belief generally exists that irrigation is not necessary, but this office is proceeding on the theory that the absence of rainfall in the summer months leaves some crops with inadequate moisture at some period of their growth, and that the most profitable agriculture attainable demands that this deficiency be supplied where water is available. Preliminary investigations in the northern valleys, especially about Ukiah, disclosed a decided need for irrigation of such crops as alfalfa and corn and a considerable supply of water now wasting. Some of the most progressive farmers are using small supplies with very satisfactory results, both on alfalfa and orchards, but there is need for better methods and a more general recognition of the value of having adequate moisture in the soil at all times during the plant growing season. Coöperative demonstration experiments will be arranged with one or more farmers in each of the northern valleys in question early in 1911, with the purpose of both ascertaining and demonstrating what can be accomplished with irrigation. In the southern valleys under consideration, which will be covered by Mr. C. E. Tait, in charge of these investigations in southern California, sufficient preliminary work to determine the extent to which this office can be of service has not yet been completed.

REVIEW OF OPERATIONS UNDER THE IRRIGATION DISTRICT LAW OF CALIFORNIA.

After many years of disfavor, the irrigation district law of California is again coming to be regarded by many as suited to communities desiring to own and manage their own water supplies This is true of the northern part of the State more than of the southern part, where the mutual irrigation company has reached its highest development. Out of more than 40 districts that were organized not more than half a dozen are to-day really in operation as districts, although a number of others are still legally in existence. The district form of organization is undoubtedly an almost ideal one where it is necessary to distribute the cost of irrigation works over a number of years, where it is economically desirable to cut up existing large holdings of unproductive dry-farmed land, and where the land is productive and the water supply secure and ample. It is not, however, suited to wildcat boom enterprises, and neither the fact that it was to a considerable extent used for such enterprises, nor the further fact that many enterprises to which it was adapted were mismanaged and their bonds repudiated should deter the further use of this form of organization where conditions are suited to it. Like all things that are down, the district law has been criticised and held responsible for results believed to be in no way due to it, and for this reason the task of reviewing historically the districts that have been organized and have failed, and of thereby in a measure correcting existing misapprehensions has been undertaken. The statistical data have mainly been collected and the litigation examined and analyzed for all of the districts but the preparation of the bulletin is not yet begun. It is probable that a comparison of the results attained under the irrigation district laws of other states will be included in the report.

In connection with the present trend toward a reëmployment of the district form of organization, it is interesting to note that an effort will be made at the next meeting of the California legislature to pass such legislation as will make irrigation district bonds more salable. It has long been the belief of this office that the sale of irrigation district bonds would be greatly facilitated if the law provided that before any such bonds are offered for sale there shall be, first, a certificate from the State Engineer that the water supply of the district in question is adequate, that the works proposed are sufficient and economical, and that the estimates will cover the cost of the completed system: second, a certificate issued by the Attorney General that the water rights are valid, and that the proceedings connected with the organization of the district and the offering of the bonds for sale have been in accordance with the law. Without some different method of defining and acquiring rights to water than are now in vogue in California, there might be considerable difficulty in giving a certificate of the validity of water rights, but with some such methods as are in force in other irrigated states, and as are suggested earlier in this report, the giving of such a certificate would be entirely feasible.

Studies of irrigation in the Sierra foothills. During 1909 this office investigated irrigation in the Sierra foothill region, including a general description of the foothill topography, climate, soil, area irrigated, methods employed, crops, water supply, water measurement, etc. From the brief investigation it was observed that, with the exception of a few small sections, irrigation in this region has not yet developed in the measure that is possible, either in extent or methods of application and measurement. A further study will be made of this region during 1911, and the results of the two seasons' work embodied in a circular of this office.

BUSINESS ORGANIZATION OF THE MUTUAL IRRIGATION COMPANIES OF CALIFORNIA.

The mutual irrigation companies of southern California have worked out one of the most satisfactory forms of business organization thus far effected. These organizations are being copied in a number of other states and also being extended in this State. To assist in this movement, Mr. C. E. Tait has begun the preparation of a short bulletin describing in detail the organization of these companies.

Studies of grape irrigation. Owing to inadequate funds, only preliminary work has been attempted during 1910 and this has been done by Mr. Frank T. Swett, of Martinez. The growing of grapes, either for table, raisins, or wine, is a principal California industry. They are grown with and without irrigation, and the question under consideration is, where grown without irrigation is there a lack which more moisture could supply? Such a lack might be evidenced, as stated by Mr. Swett, by stunted growth, failure to bear satisfactorily, sunburn, small berries, susceptibility to insect pests, and in extreme cases, to deficient sugar and death of vines. The question resolving itself into one of the amount of moisture best suited to vines, determinations of soil moisture have been made in vineyards in Imperial Valley, the large Guasti vineyard at Cucamonga, and in several points in San Joaquin and Sacramento valleys. These determinations will be repeated next year and the completed study will include consideration of such questions as the relative sugar and acid content of the product of irrigated and non-irrigated vineyards; also, the relative keeping qualities and the relative quantity of juice per ton of grapes crushed.

Installation of standard measuring devices. This work contemplates the installation, on our experimental plat on the University Farm, at Davis, of a sample of each of the chief standard measuring devices used in delivering water to irrigators, with facilities for such testing of these devices as seems desirable, for checking the numerous conditions laid down for the weir formula, and for determining the proper constant for use with rectangular submerged orifices as installed for water delivery purposes. A reinforced concrete reservoir to give needed volume and head has been constructed with the financial assistance of the University Farm, and a definite plan of installation has been laid out and begun. In addition, experimental work has been done in the construction of a special form of water meter for irrigation purposes a sample of which will also be installed at Davis when perfected in some details.

Irrigation experiments at Davis. The irrigation experiments that have been conducted at the University Farm, at Davis, for the past three years are being continued. For one or two more seasons, most of our plat of 25 acres will be devoted to alfalfa irrigation, the questions under consideration being the relative yields produced from different amounts of water, up to a total of about 4 feet in depth for the season, and the relative effects of varying the quantity applied at each irrigation and the time of application. The corn and grain experiments begun in 1910 will also be continued through one or two more seasons. During the winter several plots that have been devoted to alfalfa for the past three years will be plowed up and seeded to wheat, in order to demonstrate the value of crop rotation under irrigation. An experiment in growing cow peas as green fertilizer after a hay crop has been removed, as can be done with irrigation, will also be continued. The experimental work at Davis will hereafter be conducted with a greater degree of coöperation with the University of California than in the past. The profits from the irrigated crops grown on the experimental tract, which amount to about $400 per year, will, by agreement, hereafter be devoted to permanent irrigation structures in connection with the irrigation investigations, and the salary of our agent in charge will be paid equally by the University and this office.

Census of irrigation in California. In coöperation with the Bureau of the Census of the Department of Commerce and Labor this office is engaged in taking a census of irrigation in California, this office supervising the work in coöperation with Mr. W. E. Block, chief special agent, and the Bureau of the Census paying the salaries and expenses of the necessary agents. Similar work is being done by the Bureau of the Census and the Officer of Experiment Stations in all of the irrigated states of this country, under the general direction of Mr. R. P. Teele, assistant chief of irrigation investigations. While heretofore the census of irrigation has dealt primarily with purely statistical matters, the irrigation census of 1909 will go fully into details of the finance and management of irrigation enterprises and be the most complete report on the status of irrigation ever undertaken for the entire country. It is for this reason that it has been combined with a study along similar although more extensive lines being made by the Office of Experiment Stations. The information irrigators are required by law to furnish is covered by eleven different schedules, one each being provided for reclamation service projects, Carey act projects, irrigation districts, coöperative or mutual enterprises, corporate enterprises, private or partnership ditches, private pumping plants, private reservoirs, private flowing wells, rice irrigation companies, and private plants irrigating rice. The special field agents that have been appointed are, in nearly every case present or former agents of this office and these men are calling upon every active ditch company in California.

Review of coöperative irrigation investigations in California 1900-1910. The fiscal year ended June 30, 1910, was the tenth in which irrigation investigations have been carried on in California by the Office of Experiment Stations of the United States Department of Agriculture. A sufficient period of time has therefore been covered to warrant a summary and review of the work done, with such accompanying suggestions as the results obtained justify. Such a summary and review has just been completed, and will be issued as a circular of the Office of Experimental Stations early in 1911.

Present state of irrigation development in California. To give an accurate account in detail of the present extent of irrigation development in California would require a class of information not in possession of this office. Much of the information necessary for such an account was, however, collected. Based on such information and eliminating projects still in the promotion stage, a conservative estimate places at 750,000 acres, the area for which construction to provide irrigation water is now under way. Of this area, about one third is in southern California and the remainder north of Tehachapi.

Of the area now being brought under water in southern California, the principal acreage is under the various mutual water company systems of Imperial Valley, the Yuma project of the United States Reclamation Service, the new municipal aqueduct being built to supply water for use within the city of Los Angeles, but which will irrigate a large area outside of the city pending the increased needs by the city, and the southern coastal regions where development has already reached a high state. In the latter sections it is the increase in pumping plants, notably around Pomona, Corona, Chino, Whittier, Covina, Anaheim, Fullerton, Riverside, and San Jacinto Valley, that is increasing irrigation. At Redlands the most notable addition will come by the construction of a large multiple-arch dam in the San Bernardino Mountains to supply water to the various mutual water companies that two years ago acquired the property of the Bear Valley Irrigation Company, from which they had theretofore been purchasing water but which they have now mutualized. In San Diego County the matter of chief interest from the standpoint of irrigation engineering is the raising by 15 feet of the height of Sweetwater dam.

The rapid irrigation development now taking place in southern California is the more surprising in view of the popular impression that all of the available water was long ago utilized in that section of the State. An account of it is submitted to show the great value attached to water there and the extreme efforts being put forth to acquire an increased supply.

Turning north of Tehachapi, in some sections development is not unlike that of the south. Pumping for water is being increasingly resorted to in the foothill sections of Kern, Fresno, and Tulare counties, and one of the largest pumping irrigation systems in the West is now in operation in San Joaquin County, the water supply being the San Joaquin River. The lower San Joaquin Valley is fortunate in having a plentiful supply of underground water of good quality and at relatively small distance below the ground surface. In the belt around Porterville, Lindsay, Exeter, and Lemon Cove, Mr. V. M. Cone, of this office, finds it now considered profitable to pump against a head of 400 to 500 feet for citrus trees. Outside of pumping, very little irrigation development is being accomplished in the lower San Joaquin Valley, owing to exhaustion of the low-water flow of the streams and the difficulties of utilizing flood waters, that now go to waste for want of adequate water-right laws under which they can be acquired. In the upper San Joaquin, a steady increase in the irrigated area is being brought about in Modesto and Turlock irrigation districts, and what is perhaps the most notable accomplishment in the entire

San Joaquin Valley, is the recent successful organization of the Oakdale and South San Joaquin irrigation districts, in San Joaquin and Stanislaus counties. These two districts have jointly purchased for $650,000 the old Tulloch irrigation system at Oakdale, with its valuable water rights in Stanislaus River, and have together voted bonds to the extent of $3,475,000 for the construction of reservoirs, canals, and distributaries. In Sacramento Valley, which has been more backward than any other part of the State in recognizing the needs and advantages of irrigation, the largest single unit is that of the Sacramento Valley Irrigation Company, at Willows, which as the successor of the old Central irrigation district, formed under the original Wright act, is constructing works to cover a large area of the valuable land of this valley. At Orland the Orland project of the United States Reclamation Service, covering 14,000 acres in its first unit, was 77 per cent completed October 1, and ready for settlement. Other areas of more or less size are also being put under irrigation, and sold to settlers in Sacramento Valley. The opening of the Western Pacific Railway over the Sierra Nevada at a considerable distance north of any other transcontinental line, has given new impetus to development, which must be largely through irrigation, in the northeastern counties of Plumas, Lassen, and Modoc. In the latter county additional land is to be irrigated by the Klamath project of the Reclamation Service. Plans of the Reclamation Service for reclaiming and ultimately irrigating 27,000 acres of Klamath Marsh and about an equal area of Tule Lake, all in California, have already been approved by the Secretary of the Interior and bids for construction in connection with the latter were opened November 1. A third subproject included in the plans of the Reclamation Service, but not yet approved, provides for the irrigation of 10,400 acres in California south and west of Clear Lake Reservoir.

Respectfully submitted,

FRANK ADAMS,
In charge of Irrigation Investigations in California.

FOREST PROTECTION.

The coöperative agreement between the Forest Service of the United States Agricultural Department and the State of California extends only to the construction of fire trails for the protection of the forest area on a portion of the San Bernardino Mountains.

This work has been executed under the direction of Mr. R. H. Charlton, Forest Supervisor, Angeles National Forest, whose report here follows:

REPORT ON FOREST WORK.

November 22, 1910.

State Engineer, Sacramento, Cal.

DEAR SIR: In reply to your assistant's letter of November 14, addressed to Roy Headley.

According to my records the entire State appropriation of $5,000, with the exception of a few cents, was expended, together with the Forest Service special fund of $5,000, set aside to offset the State's appropriation, in construction of fire trails and firebreaks on the south slope of the San Bernardino Mountains. This slope comprises the watersheds from which the towns of San Bernardino, Redlands, Riverside, Orange, Santa Ana, and other important towns secure their water supply, both for irrigation and domestic purposes. These slopes are, for the most part, covered with a chaparral growth, almost impenetrable without trails, and very susceptible to extensive fires. The great number of campers and travelers passing through this territory greatly increase the danger of fires. The firebreaks are constructed along the backbone ridges, that being the vantage point from which fires can be combated. They average 50 feet in width, and all vegetation and brush is removed from them.

The fire trails are also constructed along ridges, where they serve both as means of access and secondly firebreaks, being widened out to about 16 feet and all vegetation removed.

During the last winter there was constructed with the state moneys 15.6 miles of new trails and 30 miles of old trails repaired and placed in good shape; 1.4 miles of new firebreaks were constructed and 18.5 miles of old firebreaks were cleaned out. Approximately, the same amount of work was done with the Forest Service appropriation, in addition to that done with the Service funds not reckoned in this coöperative work.

Very truly yours,

R. H. CHARLTON,
Forest Supervisor.

DEBRIS RESTRAINING MEASURES.

John Marshall's accidental finding of gold in General Sutter's mill race at Coloma, in 1848, attracted the attention of the world to California. The immediate result of this discovery was the inauguration of an industry that in a few months had drawn to this nearly uninhabited land a population of hundreds of thousands of feverish gold hunters. The hitherto silent cañons and hillsides now rang with the clink of pick and shovel and the roar of the water through great monitors.

Whole mountain sides were torn down, and the earth and gravel and stones sent rushing through long sluices and into the river channels to be carried farther and farther, and finally dropped on the beds of quieter streams of the valley.

No one gave thought of the consequences of sending this avalanche upon the lowlands. But soon a pastoral race arrived and engaging in the more quiet occupation of tilling the fertile valley soon found the increasing accumulation of mining débris become a menace to their land.

The channels of the navigable streams became clogged with the ever increasing volume of sand sent down from the mines until in the interests of navigation the Federal courts enjoined the miners from operating hydraulic mines, and that vast industry came to a standstill. In 1893 the "Caminetti Act" was passed by the Congress of the United States authorizing hydraulic mining to be conducted wherever by restraining dams the débris could be prevented from reaching the streams. Under these restrictions mining was resumed and conducted to a limited extent. The law, just mentioned, created the California Débris Commission, and in addition to its powers to supervise and restrain mining it was enjoined to devise plans for the improvement and protection of the navigable waters. The commission consists of three officers of the Engineer Corps of the United States Army.

After six or seven years spent in investigation and study of the conditions and problems presented, the commission selected the Yuba River River as the first point of attack. Eight hundred thousand dollars was appropriated by the Congress and the State, each furnishing one half, for the purpose of constructing works to restrain the downflow of débris in the Yuba, and in 1902 work was commenced in the construction of a barrier a short distance below Smartsville. The first attempt in its method, and the design was changed. The winter storms carried away all work accomplished. The plan was again changed in 1903, one barrier was completed, and the second one farther down the stream was partly built. The winter storms following destroyed the completed structure and greatly damaged the other.

Again the plans were changed, and in 1904 work was resumed and a barrier completed entirely across the channel and 14 feet high. This structure stood the mild floods of 1905, though it was damaged somewhat. In 1906 repairs were made and some safeguards added. In March, 1907, during the flood that is supposed to have reached a maximum of 125,000 second-feet over the barrier, it failed and was completely washed away.

Thus the fourth plan completed after five years of labor at a cost of about $130,000, not including the cost of the former failures, proved as great a disappointment as had the others. The stored débris above the barrier, estimated at 1,000,000 cubic yards, was released and sent down the river to augment the accumulation in the streams below.

The barrier constructed cost $130,000, as above stated, which amounted to nearly 13 cents per cubic yard of débris stored. Of course, had it been completed to the height intended, to wit: 36 feet, the storage capacity would have been greater, and the cost per unit probably much lessened, but engineers not connected with the work questioned the feasibility of maintaining such structure, built upon a shifting, "filled" bed of a torrential stream at the height planned. Subsequent events unhappily confirmed their fears.

That a dam of the dimensions attempted can be constructed on the same site that will withstand the force of the elements, is averred by engineers skilled in that line of work, but the cost will be so out of proportion to the benefits to be obtained by it that it should not be considered.

While construction of the barriers was in progress work on the other features of the plans was being prosecuted, to wit: the Daguerre Point cut and the south settling basin.

A description of the conditions which led to the adoption of several features of the plans for the control of débris on the Yuba River may well be inserted here.

Before the Yuba River become the carrier of the great mass of débris liberated by the miners working on its tributaries, it is described as having been a clear stream flowing between well defined banks. The distance from its confluence with Feather River to the mouth of the cañon where it debouches into the Sacramento Valley, just above Daguerre Point, is something more than 11 miles.

The cañon at its mouth is more than a mile wide, but gradually narrows as one goes upstream, until, at the site of the barriers, some four miles above the mouth, it is considerably less than a half-mile in width.

The flow of water in a stream is due to the force of gravity, and the velocity thus imparted is modified by the rate of descent of the bed of the stream. As the slope becomes less, other things being equal, the velocity gradually decreases, and thus the energy of the moving water is diminished.

These gradations of energy, or power, may be divided into three stages: the power of erosion, transportation, and deposition.

When the water was directed against the mountain sides under high velocity it cut away the earth, washing it into the bed of the streams where it was transported as far as the water had sufficient velocity until flatter grades or obstructions were encountered which retarded the velocity to the point where it began to deposit its load—first the heaviest materials, then the lighter, and often carrying the lightest to the sea.

When the Yuba River became laden with mining débris, as soon as the water reached the flatter grades of the valley, following the law mentioned above it began depositing its load. Soon the channel was filled and the water was forced to seek other routes of travel, always seeking the lowest places. The new channels were gorged and still others formed, shifting first one way, and then another, eventually covering the whole plain. Thus the building-up process continued until the bed of the river covered a space nearly three miles wide, comprising about 25 square miles in area, and extending from Feather River to the hills.

The depth of this great mass is from 8 to 26 feet, and the volume is variously estimated at from 360,000,000 to 600,000,000 cubic yards.

As the river built up its bed higher than the adjacent lands the farmers constructed levees to protect their lands from the overflow, so there is now a strong levee on each side, extending from the Feather River to the foothills, and enclosing the territory built over by the river.

Up in the mountains there are yet vast stores of débris lodged in the "pockets" or holes in the bed of the rivers, and in the side cañons. Each recurring flood dislodges portions of this débris and brings it down to add to that already deposited in the lower levels.

It should not be understood that the river leaves all of its load each time within the territory described. Far from it. The velocity of the water after it leaves the hills is still sufficient to afford both erosive and transporting power, so that during flood flows it drops some of its load and picks up some of that which had been previously left and carries it on to the Feather, and thence to the Sacramento River. The quantity with which it arrives at the plains, however, is greater than the quantity with which it enters Feather River, therefore the accumulation of débris is increasing at the rate of about 3,000,000 cubic yards a year.

Now, when those stores of débris in the mountains shall have been exhausted and the river shall have no more to deposit it will continue to pick up the materials it has formerly dropped and carry them as far as the transporting velocity obtains.

For the purpose of confining the river to fixed limits, and preventing it from eroding more than the volume contained in the prism within those limits, the ''training walls'' were designed.

To arrest the down pour of the mountain stores of débris, to the extent of their storage capacity, the ''barriers'' were designed and constructed. To impound the excess of débris, over the capacity of the barriers to store, the system of ''settling basins'' was devised.

The training walls were to begin at Daguerre Point and extend to the Feather River. They were to be 2,000 feet apart at the upper end and to approach nearer together as they progressed downstream.

It was intended that these walls should be constructed mainly by the gold dredges in the course of their dredging for gold. These monster machines dig to a depth, sometimes, 70 feet below the surface of the ground. All materials are brought up and screened or washed. The cobbles, measuring one or two cubic feet, are piled at random, 10 to 30 feet high. It was designed that the work of the dredges should be so conducted that the cobbles would be piled up in such a manner as to form two immense dikes, 20 or 30 feet high and 200 to 300 feet in width at the base. These levees are being placed, one on each side of the intended channel of the river, and constitute the training walls to confine the river to its prescribed channel.

In order that the river should enter the channel between the training walls through a stable inlet, a cut was made through Daguerre Point. This cut is 700 feet wide, in solid material, and is provided with a concrete sill, or lip, intended to prevent deepening of the cut by erosion. To divert the river into the cut the operations of the dredges was directed so that a cobble dike has been made, extending across the mouth of the cañon. It starts at the hill at Hallet Point, on the south side, and extends diagonally upstream for some distance, then turning sharply downstream, crosses the channel and connects with Daguerre Point, on the north side. From the apex, where the dike turns toward Daguerre Point, a low dike extends directly across the river. The dike across the cañon, in conjunction with the sill in the cut, which is several feet higher than the bed of the river, and the low dike mentioned, will perform the office of a barrier for débris storage. It is claimed that the capacity of the storage basin thus formed is about 50,000,000 cubic yards.

The low dike mentioned was intended to divert a portion of the water toward the south side and into the intake of the south settling basin.

The south settling basin is a natural depression lying outside of, and adjoining, the débris basin hitherto described. The Linda levee, which limits the flow of débris on the south, is the north wall of the settling basin. The south wall consists partly of a levee built for the purpose, and partly of a cobble dike constructed by a dredge. The north and south walls join at the west end. The east wall is the hill. Concrete inlet gates are provided at Hallet Point, through which it was designed to admit water to the extent of about 3,000 second-feet. Concrete outlets are installed at the west apex of the basin. Through these outlets the water may be returned to the river.

The area of the basin is about two square miles; the greatest depth of water admissible, 12 feet. It had been the expectation that this basin would be used for impounding a portion of the débris carried by the river by turning some of the flood water into it, where, coming to rest, it would deposit its load and be drawn off into the river again.

A summary of the attempts to control the débris of the Yuba River, and the results of those attempts, is as follows:

1858. First attention attracted to impending danger from débris reaching the streams. Conditions in Yuba River discussed in public press.

1862. Disastrous floods. Destruction attributed largely to the débris-choked channels.

1878. Act of State Legislature "To provide a system of irrigation, promote rapid drainage, and improve the navigation of the Sacramento and San Joaquin rivers." Created the State Engineering Department, directing the State Engineer to "investigate the flow of mining detritus, its extent and effect on rivers and lands."

1880. Suspension of hydraulic mining, because of injunctions issued by the Federal courts. Investigations ordered by Congress.

1881. Preliminary report of Colonel G. H. Mendell, Corps of Engineers, United States Army, submitted to Congress (Ex. Doc. No. 76. H. R. 46th Cong. 3d session.) Attempt by the State Engineer to build barriers in Bear River and in Yuba River below Daguerre Point. The latter constructed, 8,600 feet long and 6 feet high. Both destroyed by first high water.

1888. Congress directed a Board of Engineer Officers to investigate the "débris question."

1889. State Engineer Department abolished. The data gathered and reports ignored.

1891. Report of Board of Engineers submitted to Congress. (Ex. Doc. No 267, H. R. 51st Cong. 2d session.)

1893. Passage of Caminetti Act by Congress creating California Débris Commission to consist of three officers of the Engineering Corps, U. S. Army. Resumption of mining on a limited scale, and only where the débris could be impounded.

1897. Appropriation of $250,000 by the Legislature in anticipation of like action by Congress.

1900. Plans for control of débris in Yuba River presented to Congress. Estimated cost $800,000. Congress appropriated $400,000.

1901. Appropriation of $150,000 additional by the State Legislature, making $400,000, to equal the appropriation made by Congress.

1902. Débris Commission began work. Two attempts, on different plans for barriers, failed.

1903. Plans changed. One barrier, 6 feet high, completed. Another partly built.

1904. Completed barrier entirely destroyed. The work accomplished on the other badly damaged. Barrier rebuilt on new plan up to height of 6 feet. Daguerre Point cut commenced.

1905. Second step added to barrier raising it to height of 14 feet. Spillway commenced. Work on Daguerre cut and training walls.

1906. Barrier badly damaged. Repairs and extensions, with safeguards, added. Other work progressing.

1907. Barrier completely destroyed. Training wall damaged. The barrier project abandoned. Training wall repaired.

1910. Training wall, north side, completed about 2½ miles, south side, nearly 2 miles. South settling basin completed. Cobble dike-barrier completed across the mouth of the cañon, turning the river through Daguerre Point cut. Channel from end of training walls to Marysville cleared of timber.

Let it be remembered that the Caminetti act was passed in 1893, and the Débris Commission, which was brought into being by the act, was immediately organized and began its investigations.

The net results of seventeen years of study and labor and the expenditure of nearly $800,000 may be epitomized as follows:

a. One cobble barrier, capable of impounding from fifteen to fifty million cubic yards of débris.

b. Two training walls, one about 2½ miles long, the other two miles; forming between them a definite, fixed, storm channel. This channel has an apparently stable entrance through Daguerre Point cut. These walls are incomplete, in that, to effect their intended purpose they must be extended nearly seven miles further to a connection with the bank of the Feather River. The designs are unquestionably good and if completed they will most probably perform their functions as intended.

c. One settling basin, having a probable capacity of eight to ten million cubic yards storage, but of doubtful utility. Being situated at one side, at some distance from the stream, and having gate facilities for the admission of only 3,000 second-feet, it is not believed that enough heavy material will be caught by it to materially reduce the burden of the river's flood waters.

The construction of the works above described is conducted under the direction of the California Débris Commission, consisting of Lieutenant Colonel John Biddle, Major C. H. McKinstry, and Captain Thos. H. Jackson, all officers of the Engineer Corps, U. S. Army. All of the relations that this office has had with the commission, have been cordial, and the courtesies shown to the Department by the commission are appreciated.

It seems pertinent, at this time, to call attention to what appears to be a one-sided arrangement in the "coöperative" agreements between the State and Federal Government for débris control and navigation improvment The State pays one half the cost of all such work, but the representative has no part in formulating plans or in executing the work. His only functions are to audit the claims and direct the payment of one half the amounts by the State Treasurer. It is true that copies of the plans, and of the contracts for work, are filed in the archives of the State, but no one has the authority to pass upon the sufficiency of the plans before the money is paid for the work executed under them.

A decade ago nearly a half-million dollars were appropriated for a special purpose. Work which the State had no part in designing or directing, was undertaken along lines the efficacy of which was questioned by eminent engineers. The funds are about exhausted, and the works have one small part completed, which has accepted merit; the most meritorious part of the scheme is less than one third finished—the major part of the work that had been accomplished, utterly destroyed.

The State has recently appropriated another large sum for a much needed work, a work that is imperatively required for the preservation of immensely valuable interests. Yet no one connected with the State government may have a voice in directing the expenditure of the State's money. The plans for the improvements contemplated by the appropriation as they have been given to the public, in the opinion of this Department, will fall far short of giving the relief expected. If carried out upon the lines indicated, like the work on the Yuba River, some good will result, but the cost will be far greater than the value of the benefits to flow from it.

It is urged that in the future all appropriations for the expenditure of state moneys should provide for the State having a voice in directing how the money shall be expended.

APPENDIX III.

Statement of the amounts of taxes levied in 1908 in the several counties of California for county road purposes, to be expended by the boards of supervisors, during the fiscal year 1909-1910.

	Value of property taxed for road purposes	Rate on each $100 of valuation.	Amount.
Alameda	$18,152,269 00	$0 40	$72,609 07
Alpine	509,180 00	35	1,782 13
Amador	5,069,271 00	42	21,290 93
Butte	15,772,977 00	40	63,091 90
Calaveras	6,178,275 00	40	24,713 10
Colusa	11,495,835 00	40	45,983 34
Contra Costa	20,947,190 00	40	83,788 76
Del Norte	4,014,306 00	40	16,057 22
El Dorado	4,565,910 00	38	17,350 45
Fresno	43,656,877 00	38	165,896 13
Glenn	11,408,052 00	40	45,632 20
Humboldt	20,575,636 00	60	123,453 81
Imperial	7,077,691 00	40	28,310 76
Inyo	3,605,850 00	27	9,735 79
Kern	39,080,658 00	35	136,782 30
Kings	9,392,521 00	40	37,570 08
Lake	3,187,583 00	50	15,937 91
Lassen	5,770,790 00	40	23,083 16
Los Angeles	79,778,233 00	60	478,669 39
Madera	7,797,000 00	35	27,289 50
Marin	8,816,215 00	40	35,264 86
Mariposa	2,222,367 00	40	8,889 46
Mendocino	11,925,358 00	40	47,701 43
Merced	15,687,908 00	55	86,283 49
Modoc	5,668,255 00	30	17,004 76
Mono	1,284,075 00	30	3,852 22
Monterey	18,683,628 00	35	65,392 69
Napa	9,406,475 00	36	33,863 31
Nevada	4,817,585 00	40	19,270 34
Orange	16,851,700 00	40	67,406 80
Placer	7,206,470 00	40	28,825 88
Plumas	5,346,515 00	4365	23,337 53
Riverside	10,405,273 00	40	41,621 09
Sacramento	23,064,480 00	47	108,403 05
San Benito	5,922,120 00	33	19,542 99
San Bernardino	19,074,845 00	45	85,836 80
San Diego	7,928,986 00	60	47,573 91
San Francisco*			
San Joaquin	23,072,983 00	365	84,226 38
San Luis Obispo	12,407,985 00	40	49.631 94
San Mateo	16,479,915 00	50	82,399 57
Santa Barbara	17,737,134 00	35	62,079 96
Santa Clara	38,733,365 00	40	154,933 46
Santa Cruz	7,251,075 00	40	29,004 30
Shasta	11,636,905 00	40	46,547 62
Sierra	1,729,775 00	50	8,648 87
Siskiyou	13,125,223 00	40	52,500 89
Solano	13,870,957 00	40	55,483 82
Sonoma	23,383,240 00	40	93,532 96
Stanislaus	17,717,790 00	40	70,871 16
Sutter	6,341,004 00	40	25,364 01
Tehama	9,911,620 00	38	37,664 15
Trinity	2,884,208 00	40	11,536 83
Tulare	27,066,662 00	45	121,799 97
Tuolumne	6,942,725 00	50	34,713 62
Ventura	18,966,884 00	35	66,384 09
Yolo	14,530,530 00	40	58,122 12
Yuba	3,947,350 00	40	15,789 40
Total			$3,340,333 66

*No expenditures on county roads.

APPENDIX III—Continued.

Alturas and Cedarville Road.

Appropriation balance, November 1, 1908		$4,872 68
Expenditures to date	$4,862 31	
Present appropriation balance	10 37	
		4,872 68

Downieville and Sierra Road.

Appropriation balance, November 1, 1908		$876 67
Expenditures to date	$729 65	
Present appropriation balance	147 02	
		876 67

Emigrant Gap Road.

Appropriation, 1909		$15,000 00
Expenditures to date	$14,374 30	
Present appropriation balance	625 70	
		$15,000 00

Kings River Road.

(Work performed in coöperation with Fresno County.)

Appropriation balance, November 1, 1908		$3,618 85
Expenditures by State	$3,616 28	
Present appropriation balance	2 57	
(One-third paid by Fresno County, $1,808.14.)		3,618 85

Kings River Road.

Appropriation, 1909		$25,000 00
Expenditures to date	$24,351 98	
Present appropriation balance	648 02	
		25,000 00

Lake Tahoe Road (maintenance).

Appropriation balance, November 1, 1908	$772 37	
Appropriation, 1909	$10,000 00	$10,772 37
Expenditures to date	$9,833 24	
Present appropriation balance	939 13	
		10,772 37

Lake Tahoe Road (improvement and sprinkling plant).

Appropriation, 1909		$20,000 00
Expenditures to date	$19,391 80	
Present appropriation balance	608 20	
		20,000 00

Mono Lake Basin Road (maintenance).

Appropriation balance, November 1, 1909	$261 96	
Appropriation, 1909	3,000 00	$3,261 96
Expenditures to date	$3,142 15	
Present appropriation balance	119 81	
		3,261 96

Sonora and Mono Road (changing road and making culverts).

Approppropriation, 1909		$10,000 00
Expenditures to date	$4,767 03	
Present appropriation balance	5,232 97	
		10,000 00

Sonora and Mono Road (bridges).

Appropriation balance, November 1, 1908		$2,139 02
Expenditures to date	$2,084 44	
Present appropriation balance	54 58	
		2,139 02

Sonora and Mono Road (maintenance).

Appropriation balance, November 1, 1908	$644 41	
Appropriation, 1909	12,000 00	$12,644 41
Expenditures to date	$10,470 54	
Present appropriation balance	2,173 87	
		12,644 41

APPENDIX III—Continued.

Trinity-Humboldt Road.

Appropriation balance, November 1, 1908		$40,700 65
Expenditures to date	$39,232 86	
Present appropriation balance	1,467 79	
		40,700 65

Rectifying River Channels.

Appropriation balance, November 1, 1908	$86,729 19	
Appropriation, 1909	150,000 00	
Contributions to date:		
By Sutter County	1,000 00	
By citizens of San Rafael	1,500 00	
By property owners of Brannan Island	20,000 00	
By Yolo County	811 90	
By property owners of Chicory Bend	2,000 00	
By property owners at Lorenzen's Bend	4,284 67	
By property owners at Sherman Island	9,037 01	
By property owners at New Hope District	7,322 03	
By F. H. Harvey	666 66	
Receipts from rebates and sale of materials	2,081 87	$285,433 33
Expenditures to date	$253,619 82	
Present appropriation balance	31,813 51	
		285,433 33

Eel River Protection (Chapter 115, 1907).

Appropriation balance, November 1, 1908		$3,888 22
Expenditures to date	$3,851 80	
Present appropriation balance	36 42	
		3,888 22

Eel River Protection (Chapter 502, 1909).

Appropriation, 1909		$25,000 00
Expenditures to date	$10,309 81	
Present appropriation balance	14,690 19	
		25,000 00

Traveling and Contingent.

Appropriation balance, November 1, 1908	$7,088 78	
Appropriation, 1909-1910	20,000 00	$27,088 78
Expenditures to date	$22,054 08	
Present appropriation balance	5,034 70	
		27,088 78

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TWENTY-FIFTH ANNUAL REPORT

OF THE

INDUSTRIAL HOME OF MECHANICAL TRADES FOR THE ADULT BLIND

OF THE

STATE OF CALIFORNIA.

1909-1910.

SACRAMENTO:
W. W. SHANNON - - - - - - - - Superintendent State Printing
1910.

BOARD OF DIRECTORS.

JOHN P. IRISH, *President*	Oakland
GEORGE E. RANDOLPH, *Vice-President*	Oakland
WARREN OLNEY	Oakland
H. C. CAPWELL	Oakland
J. WALTER SCOTT	Oakland

OFFICERS OF THE HOME.

JOSEPH SANDERS	Superintendent
H. N. ROWELL, M.D.	Physician
GEORGE S. MEREDITH	Secretary

REPORT.

To the Honorable James N. Gillett, *Governor of California.*

Sir: The Board of Directors of the Industrial Home of Mechanical Trades for the Adult Blind submits to you, and for the information of the legislature, its report for the fiscal year ending June 30, 1910, being the twenty-fifth annual report of this institution.

When this Home was created by act of the legislature, the necessity for it was well understood. The nature of many of the occupations of our people peculiarly exposes them to blindness in adult age, by accident and disease. They were not qualified either by law or by their condition for admittance to the deaf, dumb, and blind college at Berkeley. That excellent institution being scholastic and not industrial had nothing to offer in amelioration of the condition of those deprived of sight in adult age. But while their necessities were apparent, the method by which they might be cared for, taught handicrafts, and relieved by occupation was not well known. At that time there was not in any country an institution for the adult blind so conspicuous by its success as to serve as an example and guide.

Because of this lack of a reliable precedent to be followed, several years went by during which this Home was but little more than a mere asylum for its inmates, serving a purpose that could have been as well intrusted by preëxisting eleemosynary institutions. Finally, with a desire to make it a real benefit to the adult blind, the directors put it under the superintendency of Mr. Joseph Sanders, himself blind and a trained mechanic and teacher of all the trades possible to the blind, and also a man of fine commercial genius and judgment. Immediately the Home began to swing into its proper place. The blind were soon duly instructed in handicrafts, and the products of their industry were offered to a market that was continually expanding.

Occupied in productive labor, in which they take pride, the inmates have enjoyed the capital blessing to the blind, occupation, in which the sorrows of their condition are forgotten, and they are happy.

The Home was, in the beginning, housed in buildings erected for a private residence thirty-five years ago. These were added to, in an aimless way, to shelter the increasing number of inmates. The shop was long unfit for occupancy, and its dangerous state was shown by the collapse of a portion of it. This occurred fortunately on a holiday, when the people were not at work and the shop was unoccupied. Otherwise the loss of life would have been appalling. An appropriation by the legislature enabled the construction of a safer shop and more modern in its equipment.

The old residence, which long served as a kitchen, dining-room, office, and women's dormitory, was not only inadequate in size but the foundation, roof, and frame were infirm with age. The need of a new building was imperative, and the legislature appropriated $50,000 to meet it. This building is now finished and occupied. It was erected on the plans of the State Architect, and constructed under the supervision of the State Engineer. The building is of reinforced concrete, with tile roof, is practically fireproof and modern in all its equipments. Externally, it is exceeding attractive, and in all respects is a credit to the State and to the state officers who had charge of its construction.

It was the intention of the superintendent and the plan of the directors to use the old central building for dormitory purposes for the male inmates. To adapt it to that purpose requires extensive refitting, and still more extensive repairs to the foundation, frame, roof, and plumbing. When all this is done it will still be an old building not worth the expense of the repairs put upon it.

As the matter must be decided by the State Engineer, the directors requested that officer to inspect the old building and report. This was done, and the State Engineer sent the following letter and report:

SACRAMENTO, CAL., October 27, 1910.

Hon. JOHN P. IRISH, *Board of Managers, Industrial Home for Adult Blind, Oakland, Cal.*

MY DEAR MR. IRISH: I herewith enclose you a short report, giving my views on the old wooden structure in the center of the Oakland Blind Home grounds. I believe that it would be totally unwise to try and fix this building, and think that your institution should have a new concrete building.

Trusting that this report meets with your approval, I am,

Very truly yours,

N. ELLERY, State Engineer.

Honorable Board of Managers, Home for the Adult Blind, Oakland, Cal.

GENTLEMEN: Upon examination of the old wooden building, in which until recently the offices of your institution were located, I find it to be in bad condition, and from the standpoint of economy for the State, it is my opinion that to reconstruct this wooden structure would be unwise and an expense that would practically be lost, on account of the fact that at best when the building is repaired and rearranged it will not give the service of a new structure.

Therefore, I would recommend strongly against the reconstruction of this building, not only from the point of economy, but also the view that the blind should not be housed in a building so liable to destruction by fire. It would cost about $7,500 to place the building in fit condition, but what is needed is a new concrete building to conform to your new dormitory. Such a building, I believe, could be built for $75,000, and I therefore urge the necessity of this rather than any effort to save the old building.

Respectfully,

N. ELLERY, State Engineer.

The directors, therefore, have the honor to recommend and request the appropriation of $75,000 for the construction of a new building, as a pressing necessity.

The appendix to this report presents in detail the physical and financial condition of this institution. The directors feel pride in the fact that notwithstanding the great advance in the cost of the staples and necessaries of life, the superintendent, by watchfulness, care, and economy, has kept the cost of administration within the usual appropriation, and feels certain of his ability to do so in the future.

The institution has maintained its place as the leading home for the adult blind in the world. Foreign countries and many states in our country have examined the methods and taken it as a model. In some cases these examinations have been made by official commissions, whose members have expressed their surprise that California houses so unfitly and inadequately an institution that leads the world. The new concrete building removes part of this just reproach, but the State should continue construction until this Home is sheltered as its necessity and fame deserve.

JOHN P. IRISH,
President of the Board of Directors.

Subscribed and sworn to before me this 16th day of December, A. D. 1910.

GEO. W. AUSTIN,
Notary Public in and for the county
of Alameda, State of California.

SUPERINTENDENT'S ANNUAL REPORT FOR THE YEAR ENDING JUNE 30, 1910.

OAKLAND, CAL., June 30, 1910.

To the Honorable, the Board of Directors of the Industrial Home for the Adult Blind.

GENTLEMEN: In accordance with the provision of section 4, subdivision 11, of the act governing the Home, I herewith submit to you my report of the affairs and conditions of the Home for the year ending June 30, 1910.

The year just ending is the twenty-fifth of the Home's existence, and the eleventh in which it has been under the control and management of your present superintendent since his reinstatement by your honorable body in 1899.

Annexed hereto are presented the several statistical tables of the affairs of the Home required to be set forth in this report.

Officers of the Home.

		Salary.
Superintendent	Joseph Sanders	$2,100 00
Secretary	Geo. S. Meredith	600 00
Physician	H. N. Rowell, M.D.	1,200 00

Employees of the Home, and their Rate of Compensation per Month.

		Salary.
Clerk of the Home	T. A. Williston	$70 00
Matron	Mrs. A. Sanders	35 00
Assistant Matron	Miss O. B. Smith	30 00
In charge of women	Mrs. F. C. Pentz	30 00
Watchman	S. C. Roberson	40 00
First cook	P. Cotroneo	60 00
Second cook	A. Haywood	35 00
Janitor and nurse	A. H. Wulzen	33 00
Janitor	H. Gastell	25 00
Waitress	Miss Gilbert	22 50
Waitress	Miss Hallmeyer	22 50
Waitress	Miss Duffy	22 50
Waitress	Miss Moore	22 50
Laborer	F. Margraf	25 00
Carpenter	D. Gorman	25 00
Driver of broom wagon	J. Mallon	25 00
Reader	J. Evans	7 50
Total		$530 50
Gardener	H. C. Johnson, when employed, per day	3 00

Inmates Employed by the Month.

		Salary.
Shop assistant	D. Weider	$35 00
Shop assistant	W. A. Plowman	27 50
Laborer	W. H. Hummerston	5 00
Dishwasher	P. Conrad	7 00
Total		$74 50

Employees of the Shop, and their Rate of Compensation per Month.

Shop assistant	E. Timmell	$25 00
Shop assistant	J. Evans	25 00
Teacher in girls' shop	Mrs. Leach	22 50
Total		$72 50

Name of Inmates Present during the Year ending June 30, 1910.

Name.	Date of Admission.	Age.	Native of
1. D. Aherna*	June 13, 1890	68	Michigan
2. Maggie Aitkens	Oct. 1, 1887	28	Germany
3. Geo. Allman*	Aug. 25, 1902	52	Massachusetts
4. W. E. Allen	June 15, 1910	19	California
5. J. S. Butterworth	Nov. 6, 1908	62	New Jersey
6. Michael Bryan	Apr. 6, 1909	42	Ireland
7. T. J. Beebe	May 20, 1909	72	Indiana
8. Urisino Bautisti	May 30, 1909	44	Mexico
9. S. Brown	Aug. 17, 1901	42	Connecticut
10. P. M. Behan	Mar. 23, 1898	34	Ireland
11. J. E. Buskirk	May 6, 1905	44	Indiana
12. A. Barrett†	Jan. 20, 1905	25	Ireland
13. A. Bellisle	Jan. 2, 1888	42	Canada
14. Miss Brissell	Mar. 30, 1888	38	New York
15. W. Brooks†	Feb. 1, 1909	31	California
16. Isabella Cinega	Feb. 9, 1890	29	California
17. Margaret Clifford	Oct. 25, 1898	25	California
18. J. Coffey	Dec. 1, 1890	20	California
19. E. Coleman	Aug. 13, 1907	37	Wisconsin
20. T. Carr	June 9, 1905	50	Ireland
21. P. J. Conrad	Aug. 26, 1909	44	New York
22. Amelia Coffey†	Dec. 4, 1907	20	California
23. Kate Carroll†	Jan. 4, 1901	47	Ireland
24. Leon Dominic	Nov. 10, 1908	58	Colombia, S. A.
25. F. Dodge	Feb. 23, 1909	29	California
26. J. Didier	Apr. 17, 1898	38	Illinois
27. E. DeWitt	Oct. 22, 1907	32	Colorado
28. Geo. Dudley‡	Nov. 30, 1885	33	California
29. O. Darnell†	Dec. 17, 1902	20	Oregon
30. A. Derrick‡	June 24, 1907	24	Arizona
31. Viola Doudell	Mar. 16, 1903	37	Virginia
32. W. M. Frame†	July 10, 1908	22	Kansas
33. Anna Fenity	Nov. 10, 1908	50	Connecticut
34. A. E. Florence	Nov. 10, 1908	79	Connecticut
35. B. Fales*	Sept. 20, 1893	50	Michigan
36. Sarah Fryberg	Jan. 25, 1904	27	Germany
37. Wm. Flannigan	Dec. 9, 1896	35	New York
38. Alice E. Fields	Jan. 12, 1895	25	Maine
39. Cristino Estrella	Oct. 12, 1909	38	Mexico
40. Frank Gonzels†	Aug. 26, 1909	43	Portugal
41. Austin Gibbons	Apr. 18, 1910	39	Missouri
42. Geo. Grady	June 4, 1910	44	California
43. T. George	Aug. 1, 1907	37	Michigan
44. S. D. Grant	Apr. 4, 1906	19	California
45. Frank Gonzels†	July 14, 1906	18	California
46. M. Gomez‡	Dec. 6, 1906	32	Cape Verde Islands
47. J. Giblin	May 22, 1907	52	California
48. T. Graney†	Nov. 14, 1904	20	California
49. J. H. Gafferney	Jan. 9, 1886	32	California
50. H. Hansen	Nov. 10, 1908	66	Denmark
51. G. Hayes	Apr. 13, 1909	49	Canada
52. F. W. Hummerston	Sept. 7, 1907	63	England
53. Lizzie Hannah	Sept. 7, 1887	41	England
54. P. M. Hoban	Sept. 25, 1893	44	Ireland
55. H. Hodges*	May 23, 1896	49	England

Name of Inmates Present during the Year ending June 30, 1910—Continued.

Name.	Date of Admission.	Age.	Native of
56. B. Holmes†	Apr. 25, 1894	32	Illinois
57. Pauline Howe	Feb. 2, 1889	29	California
58. C. A. Ingals†	May 1, 1907	20	California
59. W. A. Jennings	Jan. 3, 1910	39	Illinois
60. Wm. Johnston	Feb. 16, 1899	49	North Carolina
61. Wm. Judson†	Nov. 10, 1890	22	Tennessee
62. D. Kane	Apr. 25, 1910	37	California
63. F. King	June 13, 1890	17	Massachusetts
64. D. Kraskey	June 16, 1890	18	Minnesota
65. M. Kouper	Sept. 16, 1900	38	Germany
66. Julia Legal	Oct. 9, 1909	33	Germany
67. H. Lutz	Jan. 24, 1902	46	Germany
68. G. E. Morse†	Nov. 24, 1908	27	California
69. P. McCann	Feb. 29, 1909	39	California
70. J. Lipp†	Jan. 7, 1895	20	California
71. Lizzie Logan‡	Oct. 7, 1891	22	California
72. H. Moeckel	July 13, 1909	34	Germany
73. Margaret Morrison	Aug. 9, 1909	48	California
74. J. McDonald	July 12, 1905	37	Ireland
75. Ellen P. Morgan†	May 1, 1906	29	Utah
76. Clara Long†	May 1, 1906	41	Illinois
77. C. Martin	Sept. 3, 1903	44	Norway
78. Rose McComb‡	Apr. 24, 1902	37	Utah
79. C. S. Morgan	Dec. 5, 1904	41	California
80. M. Marmalejo	Mar. 9, 1899	24	California
81. Emma Mast†	Sept. 22, 1887	21	California
82. Wm. Mast†	June 16, 1891	21	California
83. Eliza J. Matlock	Dec. 16, 1899	35	Virginia
84. L. Moulzen	Dec. 3, 1894	49	Germany
85. J. Moore	Nov. 11, 1889	29	California
86. Dorinda Mullaney	Nov. 11, 1889	27	New York
87. J. Nolan	May 18, 1902	48	Ireland
88. N. P. Neilson	July 28, 1903	31	Sweden
89. J. I. Nall	Nov. 5, 1903	21	Illinois
90. L. Orth	Sept. 2, 1895	37	California
91. B. Oakland	Apr. 15, 1903	55	Sweden
92. F. Pitzold†	Oct. 1, 1909	55	Germany
93. J. Partridge	Sept. 22, 1908	65	England
94. J. Pasco	Dec. 29, 1905	48	England
95. J. Paulsen	Aug. 22, 1904	45	Sweden
96. Claudie Piggott	Jan. 30, 1908	54	California
97. W. T. Rose†	July 9, 1904	40	California
98. Eliza Parker	Apr. 30, 1893	46	California
99. W. Plowman	June 1, 1899	46	Kansas
100. T. Powers*	Oct. 10, 1885	40	Ireland
101. W. A. Renneck	Mar. 20, 1907	29	California
102. W. J. Rafferty	July 9, 1909	39	Ireland
103. G. Richville	Apr. 27, 1896	19	Mississippi
104. J. Riley	June 10, 1890	47	Ireland
105. J. B. Roach	Oct. 9, 1908	63	Massachusetts
106. P. E. Reed‡	Sept. 14, 1908	19	Washington
107. Albert Scott	June 30, 1910	60	Ohio
108. W. H. Smith	Sept. 5, 1901	59	New York
109. F. M. Smith	June 3, 1905	55	Illinois
110. J. H. Sheehan‡	Mar. 6, 1906	50	Ireland
111. J. W. Searls	Nov. 10, 1908	58	Ohio
112. A. E. Svensen	Feb. 3, 1908	20	Chili
113. J. M. Strom	May 29, 1909	47	Sweden
114. H. Salmon	Apr. 21, 1890	21	California
115. J. Sexton	Apr. 27, 1885	42	Ireland
116. W. Shakeley	Aug. 29, 1893	44	Pennsylvania
117. Mary Slattery	Aug. 27, 1892	48	Ireland

Name of Inmates Present during the Year ending June 30, 1910—Continued.

Name.	Date of Admission.	Age.	Native of
118. W. Staggs	Nov. 1, 1888	23	California
119. R. Sublett	May 12, 1887	35	California
120. V. Swortellis*	Dec. 27, 1887	51	Russia
121. V. Svilicich	Sept. 15, 1908	47	Austria
122. D. Thussereau	Mar. 30, 1907	49	California
123. J. M. Thompson	May 25, 1900	48	Tennessee
124. E. B. Taylor	June 9, 1892	45	Maine
125. E. O. Wagner	Feb. 25, 1910	30	Germany
126. A. Wirtz	Nov. 10, 1908	52	Germany
127. Goda T. Wells	Aug. 25, 1906	49	California
128. J. Wickers*	Feb. 9, 1901	54	Germany
129. H. Ward‡	June 29, 1895	54	Illinois
130. Viola Whipple	June 29, 1895	22	Minnesota
131. D. Weider	Nov. 1, 1901	36	Iowa
132. H. Wisner‡	Aug. 22, 1904	45	Kansas
133. C. Dean	Nov. 10, 1908	40	Canada
134. L. Andrews‡	May 25, 1895	37	California
135. C. Juckett†	Dec. 14, 1904	25	Iowa

*Died during the year 7. †Left the Home during the year 28. ‡Inmates on leave of absence 10. Inmates admitted during the year 15. Inmates on the roll June 30, 1909, 126. Total number of inmates on the roll June 30, 1910, 113.

Inventory of Raw Material on Hand June 30, 1910.

Broomcorn, Eastern, 15½ tons, at $250 per ton	$3,875 00
Broomcorn, California, 17 tons, at $190 per ton	3,230 00
Chair cane, 177,000 feet, at 60 cents per 1,000 feet	106 20
Rattan, 2,000 pounds, at 9 cents per pound	180 00
Broom dye, 13 pounds, at 90 cents per pound	11 70
Bluestone, 50 pounds, at 8 cents per pound	4 00
Manila rope, 120 pounds, at 11 cents per pound	13 20
Broom staples, 12 pounds, at 9 cents per pound	1 08
Broom nails, No. 16, 21 pounds, at 8 cents per pound	1 68
Broom nails, No. 15, 120 pounds, at 4½ cents per pound	5 40
Broom nails, No. 14, 50 pounds, at 4½ cents per pound	2 25
Nails, No. 7dy., 100 pounds, at $3.75 per 100 pounds	3 75
Nails, No. 6dy., 200 pounds, at $3.75 per 100 pounds	7 50
Broom wire, No. 19, 312 pounds, at 5½ cents per pound	17 16
Broom wire, No. 22, 144 pounds, at 5⅘ cents per pound	8 35
Broom wire, No. 20, 540 pounds, at 5⅜ cents per pound	29 02
Broom wire, No. 18 galvanized, 732 pounds, at 6 cents per pound	43 92
Broom twine, green, 262 pounds, at 37 cents per pound	96 94
Brook twine, pink, 224 pounds, at ,39 cents per pound	87 36
Broom twine, orange, 161 pounds, at 39 cents per pound	62 79
Broom twine, red, 288 pounds, at 37 cents per pound	106 56
Broom twine, No. 12 B, 95 pounds, at 22 cents per pound	20 90
Broom twine, No. 18 B, 129 pounds, at 20 cents per pound	25 80
Broom twine, No. 36 B, 131 pounds, at 19 cents per pound	24 89
Broom locks, 168 gross, at 35 cents per gross	58 80
Broom bands, 4,800, at $10 per 1,000	48 00
Burlap, 2,110 yards, at 4 cents per yard	84 40
Burlap, extra heavy, 230 yards, at 8 cents per yard	18 40
Broom velvet, 250 yards, at 24 cents per yard	60 00
Whisk caps, 45 gross, at 20 cents per gross	9 00
Broom handles, maple, 48,850, at $28 per 1,000	1,367 80
Broom handles, warehouse, 4,650, at $30 per 1,000	139 50
Broom handles, painted, 500, at $50 per 1,000	25 00
Broom handles, cedar, 9,000, at $22.50 per 1,000	202 50
Whisk rods, 850, at $12.75 per 1,000	10 84
Toy broom handles, 1,700, at $13.50 per 1,000	22 95
Mattress material (estimated)	30 00
Coir, 1 bale	15 00
Total	$10,057 64

Inventory of Manufactured Stock on Hand June 30, 1910.

Brooms, 176 dozen, at $4 per dozen	$704 00
Toy and whisk brooms. 22 4-12 dozen, at $1 per dozen	26 33
Toy hammocks. 8 dozen. at $4 per dozen	32 00
Large hammocks, 5, at $3.50 each	17 50
Small hammocks, 1, at $2	2 00
Total	$781 83

Brooms Manufactured, Sold, and Delivered.

Brooms on hand July 1, 1909	2,817
Brooms manufactured July 1, 1909, to June 30, 1910	88,017
Total	90,834
Brooms sold and delivered during the year ending June 30, 1910	88,722
Brooms on hand June 30, 1910	2,112
Whisks on hand July 1, 1909	62
Whisks manufactured July 1, 1909, to June 30, 1910	17,551
Total	17,613
Whisks sold and delivered during the year ending June 30, 1910	17,297
Whisks on hand June 30, 1910	316

Manufacturing Statement for the Year ending June 30, 1910.

Brooms manufactured	88,017
Toy and whisk brooms manufactured	17,551
Chairs reseated	1,558
Settees reseated	1
Mattresses manufactured	162
Pillows manufactured	167
Toy hammocks manufactured	48
Broom bags manufactured	5,052

Summary of Expenditures for the Year ending June 30, 1910.

Month.	Provisions.	Furniture.	Wages.	Wages of inmates.	Drugs.	Building and grounds	Washing.	Raw material.	Miscellaneous.
1909.									
July	$934 13	$44 36	$1,018 15	$348 60	$30 30	$80 90	$165 00	$196 26	$71 42
August	875 90	17 68	1,021 50	417 30	30 05	31 98	165 00	1,034 74	61 35
September	790 71	10 30	1,010 65	389 05	29 65	38 01	165 00	661 81	80 46
October	983 24	28 40	1,013 50	399 20	30 80	66 45	165 00	3,476 95	244 76
November	1,003 12	41 20	1,013 50	385 70	29 95	163 08	167 05	3,928 84	155 55
December	1,012 44	15 02	1,016 50	391 15	32 15	59 51	165 00	4,072 93	188 35
1910.									
January	996 01	6 60	1,019 50	564 10	31 10	53 67	165 00	688 89	65 60
February	861 63	65	1,025 00	369 50	29 85	246 37	165 00	2,585 31	101 51
March	1,016 29	119 11	1,025 60	447 25	34 51	247 95	165 00	371 57	80 57
April	941 56	31 92	1,030 30	384 45	29 80	84 85	165 00	2,834 01	106 14
May	950 18	55 10	1,020 50	427 05	31 60	297 53	165 00	114 58	72 55
June	855 75	61 57	1,020 50	351 30	28 95	256 54	166 05	3,966 75	150 68
Totals	$11,220 96	$431 91	$12,235 20	$4,874 65	$368 71	$1,629 84	$1,983 10	$23,932 64	$1,378 94

Receipts and Collections for the Year ending June 30, 1910.

1909	July	$2,147 78
	August	1,897 73
	September	2,268 95
	October	2,054 37
	November	1,567 10
	December	2,721 83

Receipts and Collections—Continued.

1910—January	$2,555 63
February	2,341 56
March	2,078 50
April	3,173 59
May	1,913 18
June	3,852 32
Total	$28,572 54

Expenditures for the Year ending June 30, 1910.

1909—July	$2,889 91
August	3,655 50
September	3,175 64
October	6,408 30
November	6,887 99
December	6,953 05
1910—January	3,590 47
February	5,387 82
March	3,507 85
April	5,608 03
May	3,134 09
June	6,858 09
Total	$58,055 95

The current expense for the year, after deducting the following items:

Furniture	$431 91
Buildings and grounds	1,629 84
Raw material	23,932 64
Wages of inmates	4,874 63

amounts to $27,186.93. The average number of inmates residing at the Home during the year was 110. The yearly cost per capita was, therefore, $247.15; the weekly cost was $4.75. The cost of provisions alone was $11,220.96. The cost per capita for provisions was, therefore, $102 per year; the cost per week was $1.96; the cost per day was 28 cents.

The average number of persons residing at the Home during the year (including employees) was 131. The cost per capita was, therefore, $207 5[illegible]; the weekly cost was $3.99; the cost per day was 57 cents.

The amount expended for provisions alone was $11,220.93. The yearly cost for provisions per capita was, therefore, $85.66; the cost per week was $1.65; the cost per day was 24 cents.

Value of Stock, Raw Material, etc., on Hand June 30, 1910.

Raw material	$10,057 64
Value of stock	781 83
Bills receivable	3,950 47
Amount in Adult Blind Fund	4,590 21
Total	$19,380 15

T[illegible] ove sum of $19,380.15 represents the assets of the shops on June [illegible] 1910. It shows an increase over our resources of June 30, 1909 [illegible] [illegible]2,089.54. When we take into consideration the high cost of broo[illegible] the above is a showing of which we may be justly proud.

It is conclusive proof that our industries are in a flourishing condition, and that the Home is fulfilling the great purpose for which it was established by a generous legislature. Our object is to do a safe and conservative business, selling largely to the institutions and the large corporations, who are well satisfied with the product of our shops. Our losses from bad debts during the year amounted to the insignificant sum of $41.61, which speaks for the manner in which the interests of the Home are being safeguarded.

Among the many improvements which have been effected during the year I mention the following:

Asphalt walks within the grounds, amounting to over 20,000 square feet. A cement sidewalk on Telegraph avenue, also one on Thirty-sixth street. Both of these sidewalks were a necessity for many years, and I am gratified to be in a position to inform your honorable body that after long delays I have succeeded in having them laid. We have laid out new lawns, built an iron fence, about 1,600 feet on Telegraph avenue and also on Thirty-sixth street. I have had fire escapes placed on both of our wooden dormitory buildings, which add an element of safety and give confidence to the blind inmates which they did not possess before the escapes were built. We have installed a new pumping plant; water tower and tank. Chiefest among our improvements I would class our pumping plant. Our tower is 64 feet high, and our tank has a capacity of 30,000 gallons. Our pump is driven by a 5-horsepower motor, which is controlled automatically, and has a capacity of 50 gallons a minute, which will supply our needs for a long time to come. The credit for the installation of our water system is due to Director Randolph, who gave it his personal attention.

Our new dormitory building is finished with the exception of the installation of the kitchen furniture, ranges, etc., which is being installed as quickly as possible, and will be ready for your acceptance within a week or two. I trust that I will be able to move in within the month of July, or early in August.

Our new building is a credit to the Engineering Department, who planned it, and to the contractors who built it. It is strictly modern and up to date in every particular. It is fireproof, and an ornament both to the city of Oakland and to the State of California, and will stand for years to come as a monument to our great State which has been so generous in providing her blind and helpless citizens, not alone the comforts of life, but with the means whereby they may earn many of the luxuries the same as does the sighted mechanic. I take this opportunity, as the mouthpiece of the blind inmates of this institution, of assuring Governor Gillett, and the members of the state legislature, that we deeply appreciate what they have done for the sightless mechanics of our commonwealth.

I take this opportunity to express my appreciation of the faithful and efficient services of our physician, Dr. H. N. Rowell, and to thank him for the very able manner in which he performs his duties, and for his affable and courteous bearing toward all, and for his willingness to answer all demands made upon his time, either day or night. We are fortunate in having an attending physician who possesses the many endearing qualities possessed by Dr. Rowell.

I extend my thanks to the officers and employees of the institution for their faithful and untiring devotion to the interests of the Home.

In conclusion, I desire to thank deeply your honorable body for the honor conferred upon me and for the good will and assistance you have rendered in the execution of my charge and its duties. It has been, and shall be, my continual endeavor to carry out faithfully the responsibilities devolving upon me, and to execute the worthy aims of yourselves.

Respectfully submitted.

JOSEPH SANDERS,
Superintendent.

TWENTY-FOURTH AND TWENTY-FIFTH ANNUAL REPORTS

OF THE

BOARD OF DENTAL EXAMINERS

OF THE

STATE OF CALIFORNIA

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1910

MEMBERS OF THE BOARD OF DENTAL EXAMINERS OF THE STATE OF CALIFORNIA—1910.

H. R. HARBISON, D.D.S., *President*....................San Diego

C. A. HERRICK, D.D.S., *Secretary*, 401 Whitney Bldg., San Francisco

G. MAURICE CROW, D.D.S., *Treasurer*...............Los Angeles

FRED G. BAIRD, D.D.S.,..........................San Francisco

JOSEPH LORAN PEASE, D.D.S.........................Oakland

J. W. NEBLETT, D.D.S............................Riverside

J. M. BLODGETT, D.D.S..............................Lodi

TWENTY-FOURTH ANNUAL REPORT

OF THE

BOARD OF DENTAL EXAMINERS

OF THE

STATE OF CALIFORNIA

TO THE

GOVERNOR OF CALIFORNIA

December 1, 1908

MEMBERS OF THE BOARD OF DENTAL EXAMINERS OF THE STATE OF CALIFORNIA—1908.

ARTHUR B. MAYHEW, D.D.S., *President*	Sacramento
C. A. HERRICK, D.D.S., *Secretary*	San Francisco
JOSEPH LORAN PEASE, D.D.S., *Treasurer*	Oakland
FRED G. BAIRD, D.D.S.	San Francisco
H. R. HARBISON, D.D.S.	San Diego
J. W. NEBLETT, D.D.S.	Riverside
G. MAURICE CROW, D.D.S.	Los Angeles

TWENTY-FOURTH ANNUAL REPORT

OF THE

BOARD OF DENTAL EXAMINERS OF CALIFORNIA.

To his Excellency, JAMES N. GILLETT,
Governor of the State of California.

SIR: The Board of Dental Examiners of California has the honor of submitting the twenty-fourth annual report of its proceedings, together with an account of all moneys received and disbursed, in compliance with the requirements of that certain act of the legislature approved March 20, 1903, and amended and approved March 20, 1905, and amended and approved March 6, 1907, entitled “An act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of California, providing penalties for the violation thereof, and to repeal an act now in force relating to the same and known as ‘An act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of California,’ approved March 12, 1885.”

Since the last annual report on December 1, 1907, the Board has held six meetings. Three of these were for the purpose of examining applicants for licenses to practice dentistry in the State of California. At the first meeting, which was held in San Francisco beginning on December 12, 1907, there were sixty-three applicants for examination, forty-four of whom were successful and were granted licenses. These names have already been published in the last printed report.

At this meeting officers for the ensuing year were elected as follows: President, Dr. A. B. Mayhew; Secretary, Dr. C. A. Herrick; Treasurer, Dr. Joseph Loran Pease.

At the meeting in San Francisco beginning on June 10, 1908, there were seventy-one applicants. Forty-seven of these were successful and received licenses. Following are the names:

Carpenter, O. S.
Herms, F. W.
Neu, J. P.
Gorham, P. W.
Haley, G. W.
McCormick, J. J.
Brownton, L. C.
Miller, A. B.
West, R. F.
Snell, Edw.
Leslie, F. A.
Stickel, B. J.
Smith, H. B.
Thompson, W. S.
Gray, B. F.
Pitt, Clara M.
Faulkner, C. A.
Kruse, E. A.
Mooslin, Carrie J.
Dunn, Robert
Free, A. M.
Reilly, C. F.
Harper, C. E.
Brown, A. A.
McKibbin, W. M.
Smith, A. B.
Hall, F. A.
Eckes, J. D.

Hall, S. H.
Rhodes, M. T.
Curley, J. E.
Eggert, H. A.
Koenig, F. A.
Kenward, F. B.
Waddell, E. H.
Hook, B. B.
Sutherland, A. W.
Barkelew, F. E.
Tully, C. F.
Spangler, N. R.
Phillips, W. R.
Ross, F. A.
Bliss, P. B.
Rodda, G. S.
Jonasen, G. H.
Heyn, E. G.
Robinson, W. H.

A meeting in Los Angeles followed the one in San Francisco, beginning on June 23, 1908. At this examination fifty-six applicants presented themselves. The following thirty-nine were successful and received licenses:

Gardner, I. P.
Chapman, W. W.
King, E. D.
Ehrlich, G. T.
Noble, C. C.
Farnham, H. H.
Voorhees, Perry
Brenner, A. J.
Christie, L. M.
Day, L. L.
Esgate, J. I.
Schildwachter, F. D.
Eshelman, B. F.
Butler, E. I.
Beecher, G. R.
Bedford, Edmund
Prince, W. E.
Freeman, I. A.
Carney, P. D.
Osenburg, F. L.
Graf, W. E.
Soule, S. H.
Rudy, L. N.
Stonebrook, H. D.
Erwood, H. J.
Buck, C. E.
Odell, G. E.
Finley, E. S.
Gregg, R. J.
Merchant, D. N.
Filmar, Jesse
Helsby, E. E.
Badger, L. B.
Barney, W. A.
VanSchoick, C. H.
Alderson, C. M.
Lord, A. N.
Graham, F. A.
Davis, J. E.

During the year the Executive Committee has held ten meetings for the transaction of business of importance. At the meeting of the Board held in December, 1907, the matter of imposing a penalty on those who were delinquent in the payment of the annual fee was left to the Executive Committee with full power to act. This matter was taken up by the Executive Committee at a meeting held on April 21, 1908, and a penalty of $10 was imposed on all who might be delinquent on May 2, 1908, in the payment of the annual fee for 1908. At a subsequent meeting of the Board, which was held in San Francisco on June 10, 1908, resolutions were received from the State Dental Society and the Southern California Dental Society praying the Board to rescind its action imposing the penalty for this year—the reason stated being "that many of the dentists were ignorant of the provisions of the law," but requesting that the Board enforce the law in all its provisions in the coming year. In accordance with these resolutions, the Board rescinded the action taken on April 21, 1908, and passed the following resolutions:

Whereas, Certain resolutions and communications have been received from the California State Dental Association and from the Southern California Dental Association calling upon and requesting the Board to reconsider and rescind its action heretofore taken imposing a penalty of $10 upon all licensed dentists in California delinquent in the payment of the annual fee for 1908; and

Whereas, It has been made to appear to the members of the Board that the profession at large have misinterpreted the provisions of the law with reference to the imposition of this penalty, and that such misunderstanding and misinterpretation has resulted in numerous cases in which the imposition and collection of said penalty will work a hardship; and

Whereas, It appears to be to the best interest of the profession at large throughout the State that the provisions of law relating to the imposition of a penalty for failure to pay the annual fee be thoroughly and definitely understood, and that until said understanding can be accomplished the Board, exercising the discretion given it by law, should not impose said penalty; therefore, be it

Resolved, That the action heretofore taken by the Board on April 21, 1908, imposing a penalty of $10 upon all licensed dentists in the State of California delinquent in the payment of the fee beginning July 1, 1908, be and the same is hereby rescinded;

Resolved, That all money received by the Secretary of the Board as penalty imposed by the action of the Board at said meeting be returned by him in the manner provided by law, and the order of the Board, to the person or persons who paid the same.

In accordance with the above resolutions, $600, which had been collected as penalties, was returned.

In April, Dr. Garrett Newkirk of Pasadena resigned from the Board, and your Excellency appointed Dr. J. W. Neblett of Riverside to fill the unexpired term. In September, Dr. Neblett was reappointed for the term prescribed by law, and Dr. C. A. Herrick, whose term expired on September 1, 1908, was also reappointed for the term prescribed by law.

During the year the Board has issued seven duplicate licenses and restored the licenses of five dentists who had forfeited said licenses by failure to register according to section 10 of the dental law.

Following is the report of the prosecutions of illegal practitioners in the various districts of the State during the year:

ALAMEDA COUNTY: The case of S. C. Hornef, which had been pending from September 6, 1907, was tried by a jury on February 18, 1908. He was found guilty and was fined $50. He appealed to the Superior Court. He was arrested for the third time March 24, 1908. The case was appealed. He was arrested the fourth time on May 23, 1908, the case being set for trial August 4, 1908. It was continued from time to time, and is now set for January 13, 1909. He was again arrested on September 12, 1908, and the case was set for October 6, 1908, but was continued to November 24, 1908. In the second case the Supreme Court upheld the constitutionality of the law.

The case of Robert Dunn, which was pending at the time of the last report, was continued from September 10, 1907, to March 5, 1908, to July 1, 1908, awaiting decision of the Supreme Court. He is now licensed and the case has been dismissed.

F. L. Stowe, proprietor of the Boston Dental Parlors, whose case was pending from October 29, 1907, had a jury trial January 21, 1908. He was found guilty and fined. A second case against him was set for trial March 5, 1908, but was continued to give him an opportunity to take the examination in June. A third case against him was also continued for the same reason.

G. G. Leong (Chinese) was arrested September, 1907, on sign display. Case is still pending.

L. H. Dott (Chinese), who was arrested September 10, 1907, had a jury trial January 13, 1908, resulting in a disagreement of the jury. Case was continued to December 15, 1908.

S. J. Silva (with W. J. Smyth), who was arrested in October 1907, was tried December 23, 1907, and was acquitted. He was again arrested on September 12, 1908, and the case is pending.

M. Utsumi (Japanese) was arrested in December, 1907. The trial was set for February 25, 1908, but was continued. Complaint defective.

James R. Morton of Berkeley was arrested in March, 1908. He had a jury trial April 9, 1908, resulting in a disagreement. The case was reset for April 24, 1908, again resulting in a disagreement. The case was again set for May 22, 1908, and the jury again disagreed. A second case against him was tried on June 15, 1908, and the jury disagreed. A third case was tried on July 9, 1908, and he was acquitted.

Evidence was gathered against one Kelsey and one Utsumi (Japanese), but both left the city before the arrests could be made.

Los Angeles County: E. L. Reed, proprietor of the Queen City Dental Company, was arrested for the third time July 31, 1908. He was found guilty and fined $50.

S. H. B. Cochrane was arrested April, 1908. He plead guilty, and was fined $50. This was his third arrest.

A. Reinchild, employed by the Schiffman Dental Company, was arrested, plead guilty, and paid a fine of $50.

J. A. Foster, proprietor of the Yale Dentists, was arrested in August, 1908. He plead guilty, and paid a fine of $50.

J. E. Jones, employed in the office of W. G. Hutchason, was arrested. He plead guilty, and was given suspended sentence.

J. E. Jones (second offense) was arrested while employed by the Yale Dentists. He plead guilty, and was given two months in which to pay a fine of $50.

J. D. Merrick (second offense) was arrested, plead guilty, and was given six months in which to pay a fine of $50.

—. Fisher was arrested while employed in the office of W. G. Hutchason. He jumped bail and forfeited $50 cash.

Orange County: Frank Packard (second offense) was arrested at Santa Ana on sign display. He plead guilty, and paid a fine of $50.

Riverside County: W. C. Jocelyn was arrested while in the employ of C. C. Smith of Riverside. He plead guilty, and sentence was suspended. He subsequently paid a fine of $50.

In June, charges of unprofessional conduct were preferred against C. C. Smith of Riverside, to wit, the employment of an unlicensed practitioner of dentistry, one W. C. Jocelyn. After a hearing of the case, the Board decided that the evidence was not sufficient to warrant a conviction, and the case was dismissed.

SAN BERNARDINO COUNTY: —. McKenzie was arrested while employed in the offices of C. C. Smith of San Bernardino. The case is pending.

—. Longnecker was arrested at Redlands while running an office for Dr. Mason. The case is pending.

SAN DIEGO COUNTY: A. H. Belt of Oceanside was arrested August 11, 1908. Before the trial was completed he plead guilty, and sentence was suspended.

On September 1, 1908, a warrant was issued at Ramona for the arrest of O. B. Hewitt, who was practicing at Julian. Learning that a warrant was out for his arrest, he had himself arrested. He produced his own witnesses at the trial September 3, 1908, and was acquitted. He was again arrested on December 1, 1908, and was tried at Ramona, San Diego County, and was again acquitted.

SACRAMENTO COUNTY: David Charmichael, whose case was pending at the time of the last report, plead guilty, and was fined $50.

SAN FRANCISCO COUNTY: The cases of M. H. Schord, Geo. McDaniel, and F. Keseling, who were arrested in August, 1907, were put into the hands of the district attorney, and no report has been received from him.

George McDaniel was again arrested on December 28, 1907. He was tried and convicted January 27, 1908, and fined $50, which he paid.

M. H. Schord was arrested December 28, 1907, and arraigned before Judge Cabaniss. Continuances were had until March, when for some reason the case was transferred to Judge Conlan's court. The case is still pending.

F. Keseling was arrested December 28, 1907. On June 19, 1908, the case was dismissed because witnesses had absconded.

Robert D. Lowrey was arrested December 28, 1907. He was tried and convicted January 17, 1908, and fined $50. The case was appealed to the Superior Court, and is pending.

J. C. Breckenridge was arrested December 28, 1907. On April 2, 1908, the case was dismissed because witnesses had left the city.

G. L. Perkins was arrested December 28, 1907. He was tried January 22, 1908, and the jury disagreed. He had a second trial, and the jury again disagreed. The case was dismissed.

H. C. Huck was arrested December 28, 1907. He was tried on February 28, 1908, and acquitted.

Leroy Petrie, employed by the Boston Dental Company, was arrested March 21, 1908. The case is now pending, owing to the absence of one witness.

J. C. Perry was arrested March 21, 1908, and the case is now pending, owing to the absence of one witness.

A. H. Wanz was arrested March 21, 1908, and the case is now pending, owing to the absence of one witness.

A. G. Colburn was arrested June 9, 1908, and the case was dismissed August 28, 1908.

S. L. Brasch was arrested June 9, 1908. He had a jury trial and was acquitted September 14, 1908. The case against him, which had been pending since June 12, 1907, was brought to trial on November 20, 1908, and he was found guilty. This case has been appealed to the Superior Court.

C. E. Balzarini was arrested June 9, 1908. He had a jury trial and was found guilty August 31, 1908, and was fined $50. The case was appealed to the Superior Court and is now pending. The case against him, which had been pending from June 14, 1907, was dismissed on technical grounds January 19, 1908.

O. J. Fortch was arrested June 9, 1908. He had a jury trial in August and was acquitted. The case, which was pending against him since June 14, 1907, was brought to trial October 6, 1908, and resulted in a disagreement of the jury, which stood six to six. The case will be tried again.

The case of A. C. Hicks, who was arrested on June 15, 1907, is still pending.

K. Niskakura and A. Sugiyama, who were arrested October 18, 1907, were tried January 16, 1908, and both defendants were convicted. The defendants secured arrest of judgment for one week, when the judge reversed his own decision on the ground that the copies of the original complaints had omitted the words "human being."

The case of C. H. Whitley, which was pending from April 19, 1907, was brought to trial December 14, 1907, and he was acquitted.

Solano County: T. S. Shorey of Vallejo was arrested January 15, 1908. He was tried and acquitted January 25, 1908, and has discontinued practice.

Sonoma County: W. P. Lovejoy of Petaluma was arrested, but the case was dismissed.

J. H. Seager of Sebastopol was arrested in June, 1908. He was found guilty, and paid a fine of $50. He was again arrested, but the case was continued to give him a chance to take the examination in December.

In May, 1908, charges of unprofessional conduct were preferred against H. R. Morton for employing an unlicensed practitioner of dentistry, namely, James R. Morton. The case was set for trial in June, 1908, but was continued until a later date. Before the case came to trial a writ of prohibition was issued by Judge Dunn of the Superior Court of San Francisco restraining the Board from proceeding further in the case.

In June, charges of unprofessional conduct were preferred against Dr. Frank Hyatt of Los Angeles for employing an unlicensed practitioner of dentistry. After a hearing of the case, the Board decided that the evidence was not sufficient to warrant a conviction, and the case was dismissed.

FINANCIAL STATEMENT.

The following is an account of the funds received and disbursed by the Board from December 1, 1907, to December 1, 1908:

REPORT OF THE SECRETARY.

GENERAL FUND.

Receipts.

190 examination fees at $25	$4,750 00	
9 duplicate license fees at $5	45 00	
6 restoration fees at $25	150 00	
		$4,945 00

Disbursements.

Amount turned over to the Treasurer	$4,945 00

REGISTRATION FUND.

Receipts.

2,422 annual registration fees at $2	$4,844 00	
Exchange on check	10	
60 penalties at $10	600 00	
Interest Mercantile Trust Company	9 69	
		$5,453 79

Disbursements.

Amount turned over to the Treasurer	$5,453 79

REPORT OF THE TREASURER.

GENERAL FUND.

December 1, 1907—balance on hand		$386 69

Receipts.

Amount received from Secretary during the year	$4,945 00	
Interest, Central Bank of Oakland	7 35	
Fines (cases of Cochrane, Woollems, Packard, Fisher, Cochrane, Schwartz, and Jocelyn)	200 00	
Fines from Sacramento and Santa Barbara	75 00	
Transferred from Registration Fund	50 00	
		5,277 35
		$5,664 04

Disbursements.

Typewriting, printing, postage, telephone, stationery	$312 89	
Examination expenses	202 87	
Secretary's salary	420 00	
Dr. J. L. Pease (services as Treasurer)	100 00	
Return of duplicate license fee	5 00	
Mileage and Board compensation	4,071 00	
Auditing books	10 00	
Part premium bonds of Secretary and Treasurer	15 00	
Safety deposit	10 00	
Printing annual reports	113 37	
Transferred to Registration Fund	42 00	
Attorney services	55 00	
		5,357 13
December 1, 1908—balance on hand		$306 91

REGISTRATION FUND.

December 1, 1907—balance on hand		$2,902 99

Receipts.

Amount received from Secretary	$5,453 79	
Interest, Central Bank of Oakland	34 46	
Expense of proceedings against E. Bedford of Redlands	42 75	
Transferred from General Fund	42 00	
		5,573 00
Total		$8,475 99

Disbursements.

Typewriting, printing, postage, telephone, stationery, and expressage	$607 25	
Clerical expense of collecting annual registration fee	845 00	
Part premium, bonds of Secretary and Treasurer	15 00	
Auditing books	10 00	
Special counsel and detective fees and compensation of members for time spent in prosecutions	5,065 45	
Return of penalty for 1908 delinquency	600 00	
Return of cost of proceedings against E. Bedford of Redlands	42 75	
Transferred to General Fund	50 00	
Printing annual reports	113 38	
		7,348 83
December 1, 1908—balance on hand		$1,127 16

All of which is respectfully submitted by the Board of Dental Examiners of California.

December 1, 1908.

A. B. MAYHEW, D.D.S.,
President.

C. A. HERRICK, D.D.S.,
Secretary.

TWENTY-FIFTH ANNUAL REPORT

OF THE

BOARD OF DENTAL EXAMINERS

OF THE

STATE OF CALIFORNIA

MEMBERS OF THE BOARD OF DENTAL EXAMINERS OF THE STATE OF CALIFORNIA—1909.

JOSEPH LORAN PEASE, D.D.S., *President*	Oakland
C. A. HERRICK, D.D.S., *Secretary*	San Francisco
G. MAURICE CROW, D.D.S., *Treasurer*	Los Angeles
FRED G. BAIRD, D.D.S	San Francisco
H. R. HARBISON, D.D.S	San Diego
J. W. NEBLETT, D.D.S	Riverside
A. B. MAYHEW, D.D.S	Sacramento

TWENTY-FIFTH ANNUAL REPORT

OF THE

BOARD OF DENTAL EXAMINERS OF CALIFORNIA.

To his Excellency, JAMES N. GILLETT,
Governor of the State of California.

SIR: The Board of Dental Examiners of California submits the following as the twenty-fifth annual report of its proceedings, together with an account of all moneys received and disbursed in compliance with the requirements of that certain act of the legislature approved March 23, 1901, and amended and approved March 20, 1903, and March 20, 1905, and March 2, 1907, and April 6, 1901, entitled "An act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of California, providing penalties for the violation thereof, and to repeal an act now in force relating to same and known as 'An act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of California,' approved March 12, 1885."

Since December 1, 1908, the Board has held five (5) meetings for the examination of applicants to practice dentistry and the transaction of necessary business.

At the meeting held in San Francisco in December, 1908, there were sixty-one (61) applicants for a license to practice dentistry, and the following were granted licenses:

Sinclair, L. W.
McGuire, M. F.
Sherman, L. A.
Sitherwood, D. L.
Cresmer, C. J.
Bean, Ray
Sikora, P. F.
Fullen, Theo.
Eaton, J. O.
Harlan, Houston
Burke, I. C.
Zimmerman, Allen
Ramsey, C. A.
Bales, E. S.
Patterson, R. F.
Carter, C. M.
Seager, J. H.
Curless, J. H.
Carrington, P. T.
Belt, A. H.
Andrews, F. W.
Willey, H. D.
Rust, A. J.
Smith, C. E.
Parr, J. T.
Keith, Etta G.
Lee, C. E.
Conroy, J. H.
Hammen, E. C.
Kent, C. H.
Vogelman, A. R.
Dooley, J. H.
Mutchmor, A. A.
Huck, H. C.
Bradshaw, C. A.
Stewart, G. H.
Balzarini, C. E.
Garden, E. D.

At this meeting officers for the ensuring year were elected as follows: Dr. Joseph Loran Pease, President; Dr. C. A. Herrick, Secretary, and Dr. G. Maurice Crow, Treasurer.

At a meeting held in Los Angeles beginning on June 3d, there were fifty-five applicants for a license, and the following were successful and received licenses:

Collins, H. E.
Thompson, E. H.
Lovitt, C. O.
Stewart, R. W.
Felsenthal, Louis
Merrick, D. J.
King, J. D.
Coffield, G. A.
Hatcher, L. E.
Daniels, E. A.
Schiffman, W. W.
Hergenhahn, A. E.
Carl, W. H.
Ballagh, H. A.
Howard, J. L.
Sheafer, J. G.
Oka, N.
Rheinchild, P. A.
Chapin, R. H.
Gillam, J. H.
Ramirez, X. C.
Lynn, Thos.
Abbott, C. A.
Bolstad, F. P. S.
Smith, I. L.
Orth, P. S.
White, A. T.
Loughan, J. T.
Petterson, J. P. N.
Carr, C. W.
Stewarr, J. H.
Kettell, H. C
Foster, D. E.
Roe, F. A.
Numbers, Ava B. H.

A meeting in San Francisco followed the one in Los Angeles at which sixty-two (62) applicants presented themselves for examination, and the following named twenty-eight (28) were granted licenses:

Eberle, Albert
Harvey, W. H.
Rudee, H. E.
Bailey, M. G.
Whitley, C. H.
Bagley, L. A.
Forbes, D. W.
Hussey, S. W.
Sharpe, T. W.
Hart, W. C.
Perry, J. C.
Collar, F. J.
Robinson, E. J.
Davis, W. L.
Terzian, P. G.
Dod, S. L.
Currie, C. W.
McKinley, H. M.
Low, W. A.
Burson, D. H.
Brown, Harriet T.
Goddard, Malcolm
Peters, B. R.
Matzen, Niels
Walder, Hans
Fontaine, S. B.
Rives, M. E.
Thompson, A. L.

During the year the Executive Committee of the Board has held five (5) meetings for the transaction of necessary business between the regular meetings of the Board.

Since the last report the Board has restored eleven (11) licenses which had been forfeited by failure to register same according to the provisions of section 10 of the dental law, and has issued four (4) duplicate licenses.

The Board has also reinstated the licenses of ten (10) dentists whose licenses had expired by failure to pay the annual renewal fee in compliance with section 14 of the dental law.

The following is a report of the prosecutions conducted by the Board during the year. Owing to the material changes in the dental law at the last session of the legislature, the Board deemed it wise to allow a sufficient period of time to elapse in order that all might become familiar with the provisions of the same before engaging in the prosecution of violators of the law.

The dental profession and the people of California should feel gratified at the amendments to the dental law which were passed at the recent session of the legislature and which were approved by your Excellency.

ALAMEDA COUNTY: S. C. Hornef (fourth arrest), case dismissed.

S. J. Silva (second arrest), case continued from November, 1908, to January 14, 1909. Trial by jury. Acquitted.

S. J. Silva (third arrest), acquitted.

G. G. Leong (Chinese), case continued from July, 1908, to January 9, 1909. Removed. Case dismissed.

M. Utsumi (Japanese) arrested, and the case is pending.

James R. Morton, case in Superior Court.

Otsuchi (Japanese), case under investigation.

F. L. Stow, case continued.

HUMBOLDT COUNTY: A. D. Steinau was arrested November 4, 1909, and the preliminary trial was set for November 8, 1909, and continued to November 26, 1909.

LOS ANGELES COUNTY: W. F. Peebles was arrested February 13, 1909. He plead guilty, and was fined $50. Sentence was suspended to allow him to take the examination December 8, 1909.

W. Maus was arrested February 13, 1909, and the case is pending.

A. M. Sueyetake was arrested in August, 1909. He plead guilty on October 27th, and was fined $100.

C. E. Hill was arrested on November 20th, and the case is pending.

Evidence has been gathered against other parties, but warrants have not been issued for the arrests.

SACRAMENTO COUNTY: N. Kishikura (Japanese) was arrested July 14, 1909. The trial was set for July 26, 1909. He plead guilty, and was fined $100, to be collected if he again violates the law.

SAN BERNARDINO COUNTY: A. W. McDavitt of San Bernardino, evidence was gathered and the district attorney refused to allow the complaint to be filed.

SAN DIEGO COUNTY: O. B. Hewitt of Ramona was arrested for the third time. He was acquitted.

SAN FRANCISCO COUNTY: O. J. Fortch (case pending since June 14, 1907) was tried January, 1909. The jury disagreed, and the case was dismissed.

The case of A. C. Hicks, which had been pending since June 15, 1907, was dismissed for lack of sufficient evidence.

The cases against J. C. Perry and A. Steinau, who were arrested April 18, 1907, were dismissed on account of departure of witnesses.

G. L. Fleisig was arrested in January, 1909, and upon agreeing to cease practicing, the case was not brought to trial. Said Fleisig has disposed of his office and ceased practicing dentistry.

C. E. Balzarini, who was convicted on August 31, 1908, and who appealed to the Superior Court, passed the examination before the Board in December, 1908, and was licensed. He subsequently dismissed his appeal and paid his fine of fifty ($50) dollars.

Nisakura (Japanese); warrant was issued for his arrest June 9, 1909, but he left the city before he could be arrested.

Sugiyama (Japanese) was arrested June 9, 1909. He had a jury trial July 15, 1909. The case was continued with the understanding that he would cease practicing.

Robt. D. Lowrey; warrant was issued for his arrest on November 30, 1909.

O. J. Fortch; warrant was issued for his arrest on November 30, 1909.

The case of Robt. D. Lowery, which had been on appeal in the Superior Court since January, 1907, was decided in favor of the Board on November 9, 1909, and the appeal ordered dismissed by Judge Murasky.

Sonoma County: J. H. Seager (second arrest). Case was continued from July, 1908, to allow him to take the examination in December, 1908. He has since been licensed by the Board.

James R. Morton, who made application in December, 1908, for a license to practice dentistry under the act of 1885, was denied the same by the Board. He began a mandamus suit against the Board to obtain a license under said act of 1885 in the Superior Court of San Francisco on March 25, 1909. The case was continued from time to time, and was finally argued and submitted on August 30th. As yet, Judge Dunne has rendered no decision in the matter.

FINANCIAL STATEMENT.

REPORT OF SECRETARY.

GENERAL FUND.

Receipts.

4 duplicate license fees at $5	$20 00	
11 restoration license fees at $25	275 00	
11 reinstatement fees at $25	275 00	
221 examination fees at $25	5,525 00	
1 fee, application license under act of 1885	1 00	
Fines (cases of P. Rheinchild, D. J. Merrick, E. A. Fuller, C. E. Balzarini, J. A. Foster, Geo. McDaniel)	131 25	
Exchange	05	
Interest, Mercantile Trust Company	59	
		$6,227 89

Disbursements.

Amount turned over to the Treasurer	$6,227 89

REGISTRATION FUND.

Receipts.

1,968 annual renewal license fees at $2	$3,936 00	
Exchange	60	
Interest, Mercantile Trust Company	4 79	
		$3,941 39

Disbursements.

Amount turned over to Treasurer	$3,941 39

REPORT OF TREASURER.

GENERAL FUND.

Cash on hand December 1, 1908	$306 91	
Received from Secretary during year	6,227 89	
		$6,534 80
Disbursements.		
Attorney fees	$35 00	
Typewriting, printing, postage, telephone, and stationery	337 87	
Examination expenses	229 20	
Secretary's salary and rent of office	400 00	
Returned examination fees	100 00	
Board compensation and mileage	4,103 80	
Treasurer's compensation	50 00	
Treasurer's bond	15 00	
Storage	6 00	
Safe deposit	4 00	
Auditing books	25 00	
Press clippings	33 00	
		5,338 87
Balance on hand December 1, 1909		$1,195 93

REGISTRATION FUND.

Cash on hand December 1, 1908	$1,127 16	
Received from Secretary during year	3,941 39	
Warrant No. 23, issued in 1904 and not presented	40 00	
Checks 104 and 254, canceled	21 00	
		$5,129 55
Disbursements.		
Attorney fees	$1,460 77	
Expense of collecting annual fees	406 00	
Secretary's salary and rent of office	690 00	
Compensation of Treasurer	50 00	
Telephone, printing, stamps, etc.	349 35	
Secretary's bond	15 00	
Press clippings	6 00	
Auditing books	30 00	
		3,007 12
Balance on hand December 1, 1909		$2,122 43

All of which is respectfully submitted by the Board of Dental Examiners of California.

December 1, 1909.

JOSEPH LORAN PEASE, D.D.S.,
President.

C. A. HERRICK, D.D.S.,
Secretary.

GENERAL INFORMATION.

Those asking for information should send a stamp for reply.

All money paid to the Board should be sent to the Secretary.

Any one failing to receive an official, numbered receipt for money paid will confer a favor by communicating such fact to the Secretary.

The law does not exempt a non-resident or retired dentist from the payment of the annual renewal fee; however, if he does not wish to keep his license valid in California he may omit paying the fee.

Diplomas from dental colleges or licenses from other States give their holders no right to practice dentistry in California without first passing an examination.

California does not interchange licenses with other States.

Questions of the past examination may be had from the Secretary upon payment of the legal fee of 25 cents per hundred words.

Each applicant must come prepared to perform any operation in prosthetic or operative dentistry that may be assigned to him. All work must be done in the presence of the Board. Applicants must furnish all necessary instruments, materials, and patients. A complete set of rules and instructions governing the examinations will be given the applicants at the time of the examinations.

The following are the dental organizations in California:

San Diego Dental Society.
Los Angeles Association of Dental Alumni.
Alumni Association of the Dental Department of the University of Southern California.
Southern California Dental Association.
Santa Barbara County Dental Society.
Santa Cruz Dental Society.
Santa Clara Valley Dental Society.
Alameda County Dental Society.
San Francisco Dental Association.
Sacramento Dental Society.
Humboldt County Dental Association.
Dental Alumni Association of the College of Physicians and Surgeons.
Alumni Association of the Dental Department of the University of California.
California State Dental Association.

Under our present law it is very necessary that the Board should have the correct addresses of all dentists licensed to practice in California, whether they reside in the State or not. The migratory habits of many dentists have made the task of securing change of address a very difficult one. We appeal to every member of our profession to assist the board in this work.

Since December 1, 1909, the Board has held an examination and the following thirty-three applicants were granted licenses:

Aschenbrenner, C. F.
Cage, A. D.
Culver, R. N.
Dowd, H. I.
Friedmann, B. L.
Farrow, C. J.
Holt, F. J.
Inverarity, Frank
Kilburn, C. M.
Lorentz, M. A.
Marriott, C. H.
Meisenheimer, L. L.
Molyneaux, W. M.
Morgan, Harry
Musante, T. A.
McManus, J. C.
Paul, J. E.
Peebles, W. F.
Poston, Charles
Randol, F. V.
Rimmer, W. H.
Schultz, J. J.
Schwartz, R. H.
Simms, W. E.
Smith, E. G.
Sutherland, B. C.
Taylor, V. S.
Weirick, H. W.
Wessell, G. W.
Wilder, J. O.
Williams, J. K.
Wishard, F. G.
Yoshinaga, M.

DENTAL LAW OF CALIFORNIA.

An Act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of California, providing penalties for the violation hereof, and to repeal an Act now in force relating to the same and known as "An Act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of California," approved March 12, 1885.

[Approved March 23, 1901; amended and approved March 20, 1903, and March 20, 1905, and March 2, 1907, and April 6, 1909.]

The people of the State of California, represented in Senate and Assembly, do enact as follows:

Section 1. It shall be unlawful for any person to engage in the practice of dentistry in the State of California, unless said person shall have obtained a license from a board of dental examiners, duly authorized and appointed under the provisions of this Act to issue licenses; *provided*, that this Act shall not affect the right under the laws of the State of California, of dentists to practice dentistry who have lawful right to practice dentistry at the time of the passage of this Act, and no dentist shall be exempt from paying an annual license tax, as hereinafter provided. [*Amendment of 1909.*]

Sec. 2. A board of dental examiners to consist of seven (7) reputable and ethical practicing dentists is hereby created, to be known as the Board of Dental Examiners of California, whose duty it shall be to carry out the purposes and enforce the provisions of this Act. The members of this board shall be appointed by the Governor of California, all of whom shall have been actively and legally engaged in the practice of dentistry in the State of California, for at least five (5) years next preceding the date of their appointment, and none of whom shall be members of the faculty of any dental college or dental department of any medical college in the State of California, or shall have any financial interest in any such college. The said seven (7) shall compose the Board of Dental Examiners of California. The term for which the members of said board shall hold office shall be four (4) years, except that two of the members of the board first to be appointed under this Act shall hold their term of office for the term of one year, two for the term of two years, two for the term of three years, and one for the term of four years, and until their successors are duly appointed and qualified. In case a vacancy occurs in the membership of said board, such vacancy shall be filled by appointment by the Governor, within thirty (30) days after such vacancy occurs.

Sec. 3. It shall be the power and duty of said board to elect from its membership the following officers: president, treasurer and secretary. The secretary shall receive such compensation as may be fixed by the board, which shall be in addition to his per diem and mileage as a member of the board. They shall meet regularly at least twice each year, at such time and place as the board may designate, for the purpose of transacting its business, and special meetings may be held at such other times as the board may elect, or on the call of the president of the board, or of not less than four (4) members thereof. A written notice of the time, place and object of such special meeting shall be mailed by said secretary to all the members not parties to the call, at least fifteen (15) days before the day of meeting. The said board shall examine all applicants for licenses to practice dentistry according to the provisions of this Act; collect and apply all fees as directed by this Act; keep a book showing the names of all persons to whom licenses have been granted by said board to practice dentistry, and such other books as may be necessary to plainly show all the acts and proceedings of said board; have and to use a seal bearing the name "Board of Dental Examiners of California." [*Amendment of 1909.*]

Sec. 4. Out of the funds coming into the possession of the board, each member of said board may receive as compensation ten dollars ($10.00) for each day actually spent in attending to the duties of his office, and mileage at the rate of five cents ($.05) per mile for all distances actually traveled in going to and coming from the meetings of the board. Said expenses shall be paid from the fees and fines received by the board under the provisions of this Act, and no part of the salary or other expenses of the board shall ever be paid out of the State treasury.

Sec. 5. Each member of the board shall, upon his qualification and the organization of the board, file with the secretary his post office address, and thereafter any notice of any change therein. Any notice sent to the address so on file, shall be deemed to comply with the requirements of this Act as to notice to them.

Sec. 6. All books of said board shall be of public record and at all times during business hours open to public inspection. A certified copy of any part or all thereof shall be primary evidence in any court of this State. The original books shall be kept in the office of the secretary of said board, wherever he may reside, and he shall furnish to any person making application therefor a copy of any part thereof, upon the applicant paying a fee of twenty-five cents ($.25) per hundred words so copied, the said fee to belong to the secretary. All copies shall be certified by the secretary.

Sec. 7. The Governor shall have the power to remove from office at any time, any member of the board for continued neglect of duty required by this Act, or for incompetency, unprofessional or dishonorable conduct.

Sec. 8. Said board shall examine all applicants for examination, who shall furnish satisfactory evidence of having complied with the provisions of this Act relating to qualification for examination, together with the payment of the fee provided for in section twelve of this Act. The examination of applicants shall be sufficiently thorough to test the fitness of the candidate to practice dentistry. It shall include, written in the English language, questions on the following subjects: Anatomy, physiology, chemistry, materia medica, therapeutics, metallurgy, histology, pathology, operative and prosthetic dentistry, oral surgery and orthodontia; the answers to which shall be written in the English language. Said written examination may be supplemented by an oral examination. Demonstrations of the applicant's skill in operative and prosthetic dentistry must also be given. All persons successfully passing such examinations shall be registered as licensed dentists on the board register, as provided in section three, and shall be granted by the board a license to practice dentistry in the State of California, which license is subject to renewal, as hereinafter provided. In no case shall any applicant be examined or given a license who is not twenty-one years of age. [*Amendment of 1909.*]

Sec. 9. Any member of the board may inquire of any applicant for examination concerning his character, qualifications or experience, and may take testimony of any one in regard thereto, under oath, which he is hereby empowered to administer.

Sec. 10. Every person now licensed to practice dentistry in this State, who has failed to register his license with the clerk of the county wherein his place of business is located, as provided by law, must register the same within sixty days after this law takes effect, and every person who shall hereafter be licensed to practice dentistry in this State, shall within six months thereafter register in the office of the clerk where his place of business is located, in a book kept by the clerk for such purpose, and called a register of dentists, his name, age, office address, the date and number of his license to practice dentistry, and the date of such registration, which registration he shall be entitled to make only upon showing to the county clerk his license or a copy thereof certified by the secretary of the board over its seal, and making an affidavit stating his name, age, birth place, the number of his license and the date of its issue; that he is the identical person named in the license; that before receiving the same he complied with all the preliminary requirements of this statute and the rules of the Board of Dental Examiners as to the terms and the amount of study and examination; that no money other than the fees prescribed by this statute and said rules, was paid directly or indirectly for such license, and that no fraud, misrepresentation or mistake in a material regard was practiced, employed or occurred by any person in order that such license should be conferred. Said person need not personally register before the county clerk but may make the affidavit afore provided before any officer authorized by law to administer oaths, and which affidavit together with the other information and license, or the certified copy thereof as afore provided, shall be forwarded to the said county clerk, who shall act in the manner the same as if the party was personally present. The county clerk shall preserve such affidavit in a bound volume and shall issue to every licentiate duly registering and making such affidavit, a certificate of registration in his county, which shall include a transcript of the registration. Such transcript and license may be offered as primary evidence in all courts of the facts therein stated. A copy of such certificate of registration shall be sent by the county clerk to the secretary of the board within five (5) days after it is made. The county clerk's fees for taking such registration and affidavit and issuing such certificate of registration shall be one ($1.00) dollar. A practicing dentist having registered a lawful authority to practice dentistry in one county of the State, and removing such practice or part thereof to another county shall show or send by registered mail to the clerk of such other county his certificate of registration. If such certificate clearly shows that the original registration was of an authority issued by the Board of Dental Examiners, or if the certificate of registration itself is indorsed by the secretary of the Board of Dental Examiners as entitled to registration, the clerk shall thereupon register the applicant in the registers of dentists of the latter county on receipt of a fee of fifty (50) cents, and shall stamp or endorse on such certificate of registration the date and his name preceded by the words "registered also in ——— county," and return the certificate of registration to the applicant. Any lawfully registered person who shall thereafter change his name according to law shall register the new name with a marginal note of the former name with the clerk of the county or counties where he is practicing. The clerk shall forthwith notify the secretary of the board of such change. Any county clerk who knowingly shall make or suffer to be made upon the register of dentists kept in his office any entry other than that provided for in this Act. shall be liable to a penalty of fifty ($50.00) dollars to be recovered by and paid to the said State Board of Dental Examiners in a suit in any court having jurisdiction. Any failure, neglect or refusal on the part of any person holding such license to register the same with the clerk of said county as above directed for a period of six months after the issuance thereof shall ipso facto work a forfeiture of his license, and it shall not be restored except upon the payment to said board of twenty-five ($25.00) dollars. Any suspension, revocation or reinstatement of a license shall with the date thereof be forthwith noted by the county clerk on the margin of the registration thereof upon receipt of notice from the secretary of the board. [*Amendment of 1909.*]

[*Section 11, repealed March 20, 1905.*]

SEC. 12. No person shall be eligible for examination by the State Board of Dental Examiners who shall not furnish satisfactory evidence of having graduated from a reputable dental college, which must have been indorsed by the Board of Dental Examiners of California, or who shall not furnish to said Board of Examiners a certificate from the State Board of Dental Examiners, or similar body, of some other state in the United States, showing that he or she has been a licensed practitioner of dentistry in that state for at least five (5) years. *Provided,* that every person actually engaged as an apprentice to a regularly licensed dentist in the State of California at the time of the passing of this Act, shall be eligible for examination, if, within thirty (30) days after the passage of this Act, he shall file with the secretary of the board an affidavit stating his name, age, the length of time for which he has been actually apprenticed and with whom; and who, at the time of his application for examination, shall show to the satisfaction of the board that he has served an apprenticeship of at least four (4) years and is a graduate from a high school or similar institution of learning in this or some other state of the United States requiring a three (3) years' course of study; *and provided,* that no examination shall be given to an applicant claiming the right to take the same as an apprentice later than June, 1913. [*Amendment of 1909.*]

[*Section 13 repealed.*]

SEC. 14. Before any person can practice dentistry in this State, he shall obtain a license to do so from the Board of Dental Examiners. Each application shall be accompanied by a fee of twenty-five ($25.00) dollars, which shall in no case be refunded. Such license shall be good until the following first day of May when it shall expire by limitation. An annual license fee of two ($2.00) dollars shall thereafter be paid annually by every person practicing dentistry in this State, and it shall be the duty of said board to issue to all regularly licensed dentists upon application and the payment of $2.00, if made before the expiration of the applicant's license, a new license which shall entitle said person to practice dentistry in this State for a period of one year, and which license shall expire upon the following first day of May. Said board shall have no authority to issue an annual license to any person who is not a regularly licensed dentist, and who has not paid said license fee of $2.00 on or before the date when his previous license expired. Every person who was a regularly licensed dentist and who failed to pay said annual license of $2.00 before the expiration of his license, shall be considered as if no license had ever been issued to him, and before he can again practice dentistry in this State, shall make a new application therefor as in the first instance and pay the regular fee of $25.00 therefor, except that he shall not be required to submit to any examination. All renewal fees collected under the provisions of this section shall be used exclusively for the prosecution of violators of this Act and for expenses of collecting said fees. All moneys received under this Act shall be deposited in some reliable bank in the name of the board, and shall be withdrawn only on the joint check of the president and secretary of the board. [*Amendment of 1909.*]

SEC. 15. Any person shall be understood to be practicing dentistry within the meaning of this Act who shall display a sign or in any way advertise himself as a dentist, or who shall, for a fee, salary or reward, paid directly or indirectly either to himself or to some other person, perform an operation of any kind upon, or treat diseases or lesions of, the human teeth or jaws, or correct malimposed positions thereof; but nothing in this Act contained shall prohibit bona fide students of dentistry from operating in the clinical departments of the laboratory of a reputable dental college, or an unlicensed person from performing merely mechanical work upon inert matter in a dental laboratory or a licensed physician from practicing oral surgery or treating diseases of the mouth. [*Amendment of 1909.*]

[*Sections 16, 17, and 18 repealed in 1903.*]

SEC. 19. Any person, company or association shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by imprisonment in the county jail not less than ten (10) days nor more than one (1) year, or by a fine of not less than one hundred ($100.00) dollars nor more than one thousand ($1000.00), or by both such fine and imprisonment, who (1) shall sell or barter or offer to sell or barter any dental degree or any certificate or transcript, made or purporting to be made, pursuant to the laws regulating the license and registration of dentists; or (2) shall purchase or procure by barter, any such diploma, certificate or transcript, with intent that the same shall be used as evidence of the holder's qualification to practice dentistry, or in fraud of the laws regulating such practice; or (3) shall with fraudulent intent, alter in a material regard any such diploma, certificate or transcript; or (4) shall use or attempt to use any such diploma, certificate or transcript, which has been purchased, fraudulently issued, counterfeited or materially altered, either as a license or color of license to practice dentistry, or in order to procure registration as a dentist; or (5) shall practice dentistry under a false or assumed name; or (6) shall assume the degree of "doctor of dental surgery" of "doctor of dental medicine," or shall append the letters "D.D.S." or "D.M.D." to his or her name not having duly conferred upon him or her, by diploma from a recognized dental college or school legally empowered to confer the same, the right to assume said title; or shall assume any title, or append any letters to his or her name, with the intent to represent falsely that he or she has received a dental degree or license; or (7) shall in an affidavit, required of an applicant for examination, license, or registration, under this Act, willfully make a false statement in a material regard; or (8) shall engage in the practice of dentistry under any title or name without causing to be displayed in a conspicuous manner and in a conspicuous place in her or his office the name of each and every person employed in the practice of dentistry therein, together with the word mechanic after the name of each unlicensed person employed; or (9) shall within ten days after demand made by the secretary of the board, fail to furnish to said board the name and address of all persons practicing or assisting in the practice of dentistry in the office of said person, company or association, at any time within sixty (60) days prior to said notice, together with a sworn statement showing under and by what license or authority said person, company or association, and said employee are or have been practicing dentistry, but such affidavit shall not be used as evidence against such person, company or association in any proceeding under this section; or (10) is practicing dentistry in the State without a license, or whose license has been revoked or suspended. [*Amendment of 1909.*]

SEC. 20. It is hereby further provided, that the conferring of degrees and the bestowing of diplomas, by reputable dental colleges of this State, which have been endorsed by the Board of Dental Examiners of California are not included in the penalties prescribed in Section 19 of the said Act of March 23, 1901, as amended by the Act of March 20, 1903. [*Amendment of 1909.*]

SEC. 21. All fines, penalties, or forfeitures, including the examination fee, imposed or collected for the violation of any of the foregoing provisions of this Act, unless otherwise specified, shall be paid to the secretary and be by him turned into the general fund of the said board. All fines paid or collected for the violation of any of the provisions of this Act shall be paid by the court, in which the conviction shall be had, to the secretary of the said board to be by him turned into the general fund of said board. Said board, or any member or officer, thereof, may prefer a complaint for violation of this Act or any part thereof, before any court of competent jurisdiction, and may by its officers, counsel and agents, assist in presenting the law or facts at the trial. It shall be the duty of the district attorney of each county in this State to prosecute all violations of the aforesaid provisions of this Act in their respective counties in which such violations occur. [*Amendment of 1909.*]

SEC. 21½. Any dentist may have his license revoked or suspended by the Board of Dental Examiners for any of the following causes:

(1) His conviction of a felony or misdemeanor involving moral turpitude, in which case the record of conviction or a certified copy thereof, certified by the clerk of the court, or by the judge in whose court the conviction is had, shall be conclusive evidence.

(2) For unprofessional conduct or for gross ignorance or inefficiency in his profession. Unprofessional conduct shall mean employing persons known as cappers, as steerers, to mean employing persons known as cappers, as steerers, to obtain business; the obtaining of any fee by fraud or misrepresentation; willfully betraying professional secrets; employing directly or indirectly any student or any suspended or unlicensed dentist to perform operations of any kind, or to treat lesions of the human teeth or jaws, or correct malimposed formations thereof, except as heretofore provided in section thirteen; aiding or abetting any unlicensed person to practice dentistry unlawfully; habitual intemperance; gross immorality.

The proceedings to revoke or suspend any license under the first subdivision hereof, must be taken by the board on the receipt of a certified copy of the record of conviction. The proceedings under the second subdivision hereof may be taken upon the information of another. All accusations must be in writing, verified by some party familiar with the facts therein charged, and three copies thereof must be filed with the secretary of the board. Upon receiving the accusation the board shall, if it deem the complaint sufficient, make an order setting the same for hearing, at a specified time and place, and the secretary shall cause a copy of the order and of the accusation to be served upon the accused at least ten (10) days before the day appointed in the order for said hearing. The accused must appear at the time appointed in the order and answer the charges and make his defense to the same, unless for sufficient cause the board assign another day for that purpose. If he do not appear the board may proceed and determine the accusation in his absence. If the accused plead guilty or refuse to answer the charges, or upon the hearing thereof the board shall find them or any of them true, it may proceed to a judgment revoking his license or suspending it. The board and the accused may have the benefit of counsel, and the board shall have power to administer oaths, take the depositions of witnesses in the manner provided by law in civil cases, and to compel them to attend before it in person the same as in civil cases, by subpœna issued over the signature of the secretary and the seal of the board and in the name of the people of the State of California. Upon the revocation of any license, the fact shall be noted upon the records of the Board of Dental Examiners and the license shall be marked as canceled, upon the date of its revocation. [*Amendment of 1909.*]

Sec. 22. The members of the Board of Dental Examiners shall make an annual report of its proceedings to the Governor of California by the first of December of each year, together with an account of all moneys received and disbursed by them, pursuant to this Act.

Sec. 23. Four members of said Board of Dental Examiners shall constitute a quorum for the transaction of business at any meeting of the board.

[*Section 24 repealed.*]

Sec. 25. This Act shall take effect immediately, and all laws in conflict with this Act are hereby repealed. [*Amendment of 1903.*]

REGISTER OF LICENSED DENTAL PRACTITIONERS.

Name.	Place of Practice.
Abbay, W. H.	Oakland
Abbott, C. A.	Alhambra
Abrams, George	San Francisco
Acker, A. V.	Reedley
Acheson, N. B.	San Diego
Aiken, G. S.	Kahului, T. H.
Aiken, P. B.	Pine Grove
Albright, F. H.	Red Bluff
Alger, E. J.	Albuquerque, N. M.
Allen, A. B.	Pasadena
Allen, C. A.	Long Beach
Allen, H. G.	San Francisco
Allen, R. H.	Oakland
Allen, W. E.	San Diego
Allin, Ernest	Los Angeles
Albergaria, J. S.	Sacramento
Alberti, D. A.	San Francisco
Alderson, C. M.	Los Angeles
Alderson, J. W.	Wessington, S. D.
Alexander, F. W.	Rockford, Ill.
Alsberg, E. W.	St. Helena
Amelung, H. H.	Santa Cruz
Ames, G. F.	Alameda
Anderson, D. P.	Santa Rosa
Anderson, F. W.	Winters
Anderson, R. C.	San Francisco
Anderson, W. H. B.	Vancouver, B. C.
Andrews, F. W.	Hollywood
Apablasa, C. J.	Durango, Mex.
Arbogast, A. A.	San Francisco
Argall, F. L.	San Jose
Armstrong, J. J.	Vallejo
Armstrong, W. H.	San Francisco
Arner, M. E.	Vallejo
Arnold, B. C.	Los Angeles
Arnold, E. B.	Los Angeles
Arnold, F. N.	Los Angeles
Asay, C. E.	Visalia
Aschenbrenner, C. F.	Covina
Ashley, J. W.	San Francisco
Ashby, S. J.	San Francisco
Ashworth, F. D.	San Francisco
Ashworth, F. P.	San Francisco
Aten, R. R.	Fresno
Aten, W. O.	San Francisco
Atwater, H. G.	Los Angeles
Atwood, W. A.	San Francisco
Austin, A. B.	Long Beach
Austin, W. E.	Modesto
Austin, W. P.	Salinas
Auble, E. F.	Alturas
Avery, W. N.	San Jose
Axton, F. R.	San Francisco
Ayers, C. S.	Oakland
Badgero, L. B.	Los Angeles
Bacigalupi, Julia	San Francisco
Bachman, C. W.	Los Angeles
Backman, G. S.	San Francisco
Bacon, W. R.	San Francisco
Badgley, A. R.	Seattle, Wash.
Badgley, E. E.	Redding
Baer, Adolph	San Francisco
Baer, Julius	San Francisco
Bagby, H. C.	Santa Maria
Bagley, L. A.	Ione
Bailey, A. S.	Menominee, Mich.
Bailey, G. E.	Whittier
Bailey, I. R.	Pinole
Bailey, L. C.	Mazatlan, Mex.
Bailey, M. G.	Point Richmond
Bailie, H. C.	Los Angeles
Bailhachi, G. E.	San Francisco
Baird, M. L.	San Francisco
Baird, E. E.	Sanger
Baird, F. G.	San Francisco
Baker, A. W.	San Francisco
Baker, D. B.	San Jose
Baker, W. A.	Tucson, Ariz.
Baldwin, C. V.	Los Angeles
Baldwin, I. F.	Banning
Bales, E. S.	Fresno
Ball, A. E.	Redlands
Barber, W. C.	Downers Grove, Ill.
Bardue, W. N.	San Francisco
Barker, A. M.	San Jose
Barkelew, F. E.	San Francisco
Ballagh, H. A.	Maricopa
Balzarini, C. E.	San Francisco
Barham, W. W.	Yreka
Barnett, Joseph	Los Gatos
Barnes, A. B. P.	San Rafael
Barnes, A. M.	Oakland
Barnes, Bostwick	Banning
Barnes, F. J.	San Diego
Barney, J. C.	Anderson
Barr, T. I. C.	San Rafael
Bartmann, G. H.	Madera
Barney, W. A.	Covina
Bartram, E. E.	Los Angeles
Barrett, C. G.	Sacramento
Barrett, T. F.	San Francisco
Bartlett, U. G.	San Francisco
Bates, C. P.	Ukiah
Bates, H. W.	Los Angeles
Bauer, C. F.	San Francisco
Bauske, R. E.	Oakland
Baxter, J. C.	Randsburg
Beach, W. S.	Roseville
Beacom, C. W.	Crescent City
Beals, C. H.	San Diego

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Beamer, R. F.	San Francisco
Bean, G. L.	San Francisco
Bean, Ray	Los Angeles
Beazer, H. P.	Fresno
Beazley, W. S.	Los Angeles
Bebb, Wm.	Los Angeles
Bedford, E.	Redlands
Bedford, L. N.	San Bernardino
Bedwell, J. L.	Point Richmond
Beecher, G. R.	Los Angeles
Beem, G. O.	Los Angeles
Beers, C. J.	Los Angeles
Belfils, E. K.	Fresno
Bell, C. H.	San Francisco
Bell, Margaret J.	San Francisco
Bell, W. J.	Los Angeles
Belt, A. H.	Oceanside
Belt, J. G.	Safford
Benbrook, C. M.	Los Angeles
Benjamin, C. W.	San Diego
Benjamin, E. H.	San Francisco
Bennett, A. G.	San Jose
Bennett, Guy	Chico
Bennion, S. E.	Hutchinson, Minn.
Benney, C. R.	Los Angeles
Berger, L. O.	San Jose
Bergman, N. A.	Spokane, Wash.
Bergstrom, G.	San Francisco
Best, B. C.	San Francisco
Best, J. P.	Long Beach
Bethel, F. J.	Sacramento
Bettis, H. S.	Boise City
Beverton, D. W.	Pacific Grove
Bibbero, H. S.	San Francisco
Biggs, J. A.	San Francisco
Billings, W. M.	Berkeley
Bills, A. V.	San Diego
Bird, W. R.	Los Angeles
Black, J. A.	Galveston, Tex.
Blackburn, D. E.	Pescadero
Blackwell, B. G.	Hemet
Bland, J. H.	San Jose
Bland, Oscar	Cherokee Woods, Okla.
Blauer, R. J.	San Jose
Bliss, C. L.	Santa Cruz
Bliss, F. A.	San Francisco
Bliss, F. W.	Santa Cruz
Bliss, P. P.	Santa Cruz
Block, S. D.	Los Angeles
Blodgett, J. M.	Lodi
Blondin, L. D.	Oakland
Bloomer, E. O.	Los Angeles
Blosser, E. E.	Santa Maria
Boardman, J. H. (Mrs. Ensign)	San Mateo
Boeckman, H. F.	Pasadena
Boeseke, B. C.	Santa Barbara
Boesch, Matilda S.	San Jose
Bogart, S. C.	Los Angeles
Bolstad, F. P. S.	Covina
Bonstell, C. L.	Eureka
Bonham, J. F.	Sebastopol
Bonnell, F. C.	Hollister
Boone, N. I.	Red Bluff
Borger, J. N.	San Francisco
Bostwick, E. C.	San Francisco
Bowen, J. J.	New York, N. Y.
Boege, J. H.	Anaheim
Bowers, R. H.	Sacramento
Bowman, C. H.	Los Angeles
Bowman, I. L.	Long Beach
Boxton, Chas.	San Francisco
Boyd, B. B.	Los Angeles
Boyd, Ida Menges	Los Angeles
Boyens, P. J.	Weed
Boyes, E. B.	Oakland
Boyes, H. D.	San Francisco
Boys, H. S.	Paso Robles
Boynton, G. D.	San Francisco
Bradbury, E. P.	Santa Barbara
Bray, G. F. I.	San Francisco
Bradshaw, C. A.	Syracuse, N. Y.
Breene, F. T.	San Jose
Brenner, A. J.	Pasadena
Brewer, B. B.	San Francisco
Briggs, W. H.	Stockton
Brigham, E. T.	Redlands
Broad, E. J.	San Francisco
Brodbeck, H. W.	Los Angeles
Brodnax, Bland	Guatemala, C. A.
Broadwater, W. E.	Oakland
Bronson, O. E.	Fowler
Brizius, W. J.	Los Angeles
Brooks, F. A.	San Francisco
Brooks, J. A.	Berkeley
Brooks, W. E.	Oakland
Brown, Anson R.	Los Angeles
Brown, Alexander	Corona
Brown, Albert A.	Lemoore
Brown, A. V.	San Francisco
Brown, C. D.	San Francisco
Brown, C. H.	San Francisco
Brown, E. E.	Fort Bragg
Brown, E. J.	Seattle, Wash.
Brown, F. T.	Oakland
Brown, G. L.	Bakersfield
Brown, H. E.	Los Angeles
Brown, Harry G.	Chihuahua, Mexico
Brown, Harriet T.	Eureka
Brown, Henry	Spokane, Wash.
Brown, H. S.	Los Angeles
Brown, Holmes G.	Los Angeles
Brown, J. A.	McCloud
Brown, J. Guy	Oakland
Brown, M. A.	San Francisco
Browning, W. F.	San Francisco
Brownton, L. C.	San Francisco
Brun, L. E.	San Francisco
Buck, C. E.	Los Angeles
Buck, Kate D.	Los Angeles
Buell, E. B.	Escondido
Buell, H. C.	Los Angeles
Bullard, J. A.	Chicago, Ill.
Bundy, L.	Medford, Ore.
Burbank, G. C.	Long Beach
Burfeind, W. M. H.	San Francisco

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Burke, S. E.	Los Angeles
Burke, Ivan C.	Hanford
Burkholder, E. C.	Joplin, Mo.
Burns, J. B.	Oakland
Burns, O. B.	San Francisco
Burns, P. M.	San Francisco
Burns, R. E.	Los Angeles
Burns, Robert, Jr.	San Francisco
Burr, R. H.	Stockton
Burridge, W. J.	San Francisco
Bursen, D. H.	San Francisco
Burt, F. E.	Los Angeles
Burton, F.	Stockton
Bush, W. P.	Berkeley
Bush, F. J. H.	San Francisco
Butler, W. N.	Hartford, Conn.
Butler, S. L.	Oakland
Burbeck, W. R.	Los Angeles
Butterfield, C. L.	Watsonville
Bullock, W. M.	San Francisco
Butler, E. I.	San Diego
Byrne, D. W.	Santa Cruz
Cafferata, A. J.	San Francisco
Cage, A. D.	Los Angeles
Cahill, S. D.	Angels Camp
Calder, H. F.	Los Angeles
Caldwell, C. L.	Petaluma
Caldwell, F. M.	Stockton
Caldwell, W. L.	Stockton
Caler, P. B.	Globe, Ariz.
Callaghan, T. B.	Eureka
Callender, M. N.	San Francisco
Calmes, H. P.	Melrose
Cameron, A. C.	Redlands
Cameron, A. D.	Riverside
Camp, F. H.	Willits
Campbell, R. E.	Woodland
Cane, Alfred	Oakland
Carew, J. A.	San Francisco
Carlton, H. P.	Oakland
Carlson, Adam	Los Angeles
Carlyon, P. H.	Olympia, Wash.
Carmichael, F. E.	Oakland
Carmichael, T. M.	San Jose
Carney, F. D.	Los Angeles
Carpenter, O. S.	Kelseyville
Carpenter, O. S.	Berkeley
Carr, C. W.	Los Angeles
Carr, G. B.	Sacramento
Carrillo, Y. R.	Los Angeles
Carrington, P. T.	Oakland
Carroll, J. C.	San Francisco
Carter, C. M.	San Francisco
Carter, L. E.	Visalia
Casaday, C. H.	Honolulu, T. H.
Case, C. E.	Los Angeles
Case, E. G.	Ukiah
Casey, T. F.	San Francisco
Castle, C. C.	San Francisco
Castle, R. R.	San Francisco
Cauch, F. L.	San Jose
Cave, Daniel	Los Angeles
Chalfant, J.	San Francisco

Name.	Place of Practice.
Chapman, C. W.	Nevada City
Chapman, W. W.	Los Angeles
Chambers, W. K.	Los Angeles
Chandler, E. D.	Los Angeles
Chandler, H. S.	San Jose
Chapin, R. H.	Huntington Beach
Chapline, W. E.	Los Angeles
Chapman, I. H.	Burlingame
Chappel, H. G.	Oakland
Chappell, J. F.	Vallejo
Charles, M. S.	Alhambra
Chase, G. M.	San Francisco
Chase, H. E.	Seattle, Wash.
Chase, W. J.	San Francisco
Childs, J. E.	Arcata
Chilton, Jesse	Fullerton
Chrisholm, A. A.	Napa
Chismore, H. J.	San Francisco
Christie, J. E.	Salt Lake City, Utah
Christensen, G. A.	San Francisco
Church, H. E.	Los Angeles
Ciley, J. L.	Elk Creek
Clay, E. A.	San Francisco
Clay, L. E.	Clovis
Clark, F. E.	Honolulu, T. H.
Clark, Franklin E.	Florence
Clarke, J. P.	San Francisco
Clark, W. M.	Redlands
Clark, W. N.	Riverside
Clapp, S. W.	Pomona
Clayton, W. E.	Los Angeles
Clazie, F.	Oakland
Clement, C. E.	Berkeley
Clendenin, E. C.	San Francisco
Cline, F. J.	Covina
Close, R. M.	Oakland
Cochrane, E. O.	San Francisco
Cockburn, E. A.	Eureka
Cockerton, D. H.	Oakland
Cockrill, R. B.	Fresno
Coe, C. S.	Palo Alto
Coffield, G. A.	Los Angeles
Colburn, O. M.	San Francisco
Cole, C. E.	Escondido
Colgan, A. J.	Santa Ana
Colegrove, J. A.	Los Angeles
Coleman, B. F.	Gilroy
Collins, H. E.	Los Angeles
Colligan, F. J.	San Francisco
Collins, G. W.	Vermillion, S. D.
Collar, F. J.	Alameda
Collins, A. W.	San Francisco
Collins, J. E.	San Diego
Collins, M. J.	Oakland
Combs, J. E.	Visalia
Compton, G. T.	San Francisco
Comte, G. A.	Los Angeles
Coney, D. M.	San Francisco
Coney, Z. T.	San Francisco
Congdon, M. J.	Berkeley
Conolly, C. L.	Santa Rosa
Conner, E. F.	Dinuba
Conner, G. S.	St. Helena

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.	Name.	Place of Practice.
[illegible]r, W. H	Stillwater, Okla.	Cushing, S. R.	San Francisco
Conradt, H. J	Novato	Cutler, J. W.	Watsonville
Conroy, J. H	San Francisco	Dahlen, P. J.	Hartford, Conn.
Cook, A. R	Salt Lake City, Utah	Daley, H. T.	Burlingame
Cook, Isabella (Mrs. Barkmann)	Turlock	Daniels, G. E.	San Francisco
Cook, J. A	Long Beach	Daniels, E. A.	Whittier
Cook, J. F	Los Angeles	Darby, J. H.	Orange
Cook, W. E	Eureka	Darneal, W. E.	Elmhurst
Cool, G. W	Chihuahua, Mex.	Dart, E. K.	Santa Maria
Cool, R. H	San Francisco	Davenport, D. D.	Newman
[illegible] A. F	Arcata	Davis, Alice M.	Hayward
[illegible], E. M	San Francisco	Davis, C. E.	St. Helena
Cooper, J. C	Fresno	Davis, E. N. W.	Tonopah, Nev.
Cooper, J. H	Hanford	Davis, F. B.	Oakland
Cooper, M. L.	Modesto	Davis, H. C.	San Francisco
Copsey, H. B	Eureka	Davis, H. E.	Samoa
Corbett, W. F	Downieville	Davis, H. P.	San Francisco
Corbiere, C. C	Redding	Davis, H. S.	San Francisco
Corliss, W. B	Eureka	Davis, J. E.	Brawley
Corwin, Cecil	Hayward	Davis, S. C.	San Francisco
Corwin, L. T.	Oakland	Davis, W. E.	San Francisco
Cory, B. B	Fresno	Davis, W. L.	San Francisco
Cosad, A. B	Oakland	Davy, J. W.	San Jose
Coulson, N. T	San Francisco	Day, L. L.	Monrovia
Cothran, M. H. (Mrs. Donald)		Day, R. A.	San Francisco
	Goldfield, Nev.	Deacon, A. P.	Willows
Covert, A. T	Long Beach	Dean, G. S.	San Francisco
Covington, W. T	Los Angeles	Dean, J. H.	Franklin, Ind.
Cox, G. E	Los Angeles	Dean, J. S.	Redlands
Craigie, H. S	San Francisco	Dean, O. S.	Oakland
Craig, H. T	San Francisco	Decker, C. W.	San Francisco
Craig, M. W	San Francisco	Decker, J. H.	Point Richmond
Crandall, G. J.	Los Angeles	Deichmiller, Conrad	Los Angeles
Cranz, L. T	San Francisco	Delucchi, J. A.	Sutter Creek
Crawford, E. H.	Santa Rosa	Deming, R. H.	Visalia
Crawford, J. S	Los Angeles	De Martin, A. D.	Crescent City
Craycroft, W. W	Fresno	Dempsey, H. E.	Vallejo
[illegible], J. W	Alameda	Dennis, C. C.	San Francisco
Cree, W. A.	San Francisco	De Puy, Leo	Pittsburg, Pa.
Cresmer, C. J	Los Angeles	Derby, A. J.	San Francisco
[illegible]ll, R. B	San Francisco	Derby, A. T.	San Francisco
[illegible]ll, Medora V. (Mrs. Mervy)		Deuel, E. C.	Sacramento
	San Francisco	De Vore, W. G.	Tempe, Ariz.
Croft, S	San Francisco	Dewlaney, C. W.	Santa Barbara
Cronkhite J. A	Los Angeles	Dias, E. X.	Sacramento
[illegible]ll, E. T	Jersey City, N. J.	Dick, A. N.	Woodland
Crow, G. M	Los Angeles	Dick, A. Y.	Woodland
Crow, [illegible] L.	Janesville	Dickover, J. J.	Santa Barbara
[illegible] C. H	San Francisco	Dillman, I. F.	Los Angeles
Cummings, Jude E	Cloverdale	Dimmick, Joseph	Oakland
Cummings, N. C	Redwood City	Dimock, H. C.	Lompoc
Cummings, P. S	Oxnard	Dinsmore, A. M.	Ferndale
Cummings, Elizabeth	Oxnard	Ditty, Amos	Pomona
Cunningham, F. R.	Los Angeles	Dixon, M. M.	Los Angeles
Cunningham, R. G	Los Angeles	Dobbins, J. W.	Grass Valley
Cunningham, S. J	San Francisco	Dobson, W. E	Los Angeles
Cureton, Edw.	Stockton	Dod, S. L.	San Francisco
Cureton, Horance	San Jose	Dodson, E. M.	Los Angeles
Curran, J. F.	Los Angeles	Doll, C. V	Marysville
Curragh, J. M	San Jose	Dollin, A. F.	San Francisco
Currie, C. W	Oakland	Donnelley, G. S.	San Francisco
Curless, J. H.	San Jose	Doolittle, C. V.	Pomona
Curtiss, F. A.	San Jose	Dornberger, E. L.	Mountain View
Custer, C. A	Seattle, Wash.	Dowd, H. L.	Los Angeles

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Dowell, W. J.	Oakland
Downing, H. S.	Los Angeles
Downes Ernest	Santa Rosa
Doyle, B. W.	Fresno
Doyle, E. M.	Sacramento
Doyle, F. C.	Fresno
Dooley, J. H.	San Rafael
Drucker G. I.	Goldfield, Nev.
Drucker, A. C.	San Francisco
Drullard, T. W.	Santa Cruz
Du Bois, C. H.	San Rafael
Duckett, C. S.	Berkeley
Duff, H. S.	Stockton
Dunbar, P. H.	Stirling City
Dundass, E. G.	Los Angeles
Dungan, F. L.	Ferndale
Dungan, G. A.	Eureka
Dunn, J. M.	San Francisco
Dunn, M. J.	Berkeley
Dunn, R. K.	Sawtelle
Dunn, Robert	San Francisco
Durham, J. H.	Irvington
Dye, F. M. M.	Elsinore
Dyer, E. C.	San Francisco
Earl, G. W.	Gilroy
Eason, J. A.	San Francisco
Eaton, Du Bois	Centerville
Eaton, J. O.	San Francisco
Eastman, W. W.	Sonora
Eberle, Albert	Sacramento
Eckes, J. D.	San Francisco
Eddy, E. D.	Salinas
Ede, L. G.	Vinton
Edwards, A. L.	San Francisco
Edwards, B. F.	Oakland
Edwards, C. O.	Oakland
Edwards, D. P.	Crescent City
Edwards, J. W.	San Francisco
Ehred, C. T.	Los Angeles
Ehrlich, G. T.	Oakland
Eidenmiller, F. H.	Concord
Eisen, E. G.	San Francisco
Eisenbrand, G. F.	Chicago, Ill.
Elberg, H. M.	San Francisco
Eller, H. C.	Etna Mills
Eggert, H. A.	Oakland
Elliott, D. C.	Mayfield
Ellis, A. J.	Corcoran
Ellis, W. A.	San Francisco
Ellwanger, G. J.	St. Charles, Mo.
Elvidge, G. F.	Oakland
Elworthy, F. W.	San Francisco
Engs, J. S.	Oakland
Engstrom, C. J. R.	Los Angeles
Engstrom, C. O.	Sacramento
Epperson, H. V.	Long Beach
Epperson, J. W.	Los Angeles
Epsteen, H.	San Francisco
Erwood, H. J.	Los Angeles
Eshelman, B. F.	Los Angeles
Esgate, J. I.	Riverside
Estes, W. B.	San Francisco
Evans, A. O.	Los Angeles
Evans, E. E.	Oakland
Evans, J. H.	Highland
Everts, C. P.	Berkeley
Ewing, F. L.	Blackwell, Okla.
Fairweather, N. S.	Honolulu, T. H.
Farley, R. E.	San Francisco
Farman, C. E.	Oakland
Farman, C. H.	Napa
Farmer, G. C.	Folsom
Farnham, H. H.	Los Angeles
Farrow, C. G.	Los Angeles
Faulkner, C. A.	Oakland
Ferguson, G. C.	New York, N. Y.
Ferguson, T. H.	Alameda
Felsenthal, Louis	Los Angeles
Finley, E. S.	Los Angeles
Fischer, Ferdinand	San Francisco
Fischer, L. W.	San Francisco
Fisher, G. N.	Morgan Hill
Fisher, Minnie L. (Mrs. Pruitt)	Oakland
Fitch, O. P.	Placerville
Fitch, W. W.	Pomona
Fitzgerald, F. J.	Los Angeles
Fitzgibbon, J. G.	San Francisco
Flanders, G. H.	Whittier
Fleckenstein, W. J.	Los Angeles
Fleissner, H. H.	San Luis Obispo
Fleming, C. K.	San Jose
Fletcher, Thos.	San Francisco
Flood, A. M.	San Francisco
Flood, W. A.	Anaheim
Flory, W. D.	Los Angeles
Floyd, M. J. Ayers	Kerby, Ore.
Foerster, A. A. W.	San Francisco
Fogarty, J. D.	Suisun
Forbes, D. W.	San Francisco
Follansbee, H. E.	River Falls, Wis.
Fontaine, Sadie B.	Oakland
Foote, C. I.	San Diego
Force, R. W.	Pasadena
Ford, L. E.	Los Angeles
Ford, A. J.	San Francisco
Forester, C. O.	San Francisco
Forrester, H. E.	Pueblo, Colo.
Foster, D. E.	Los Angeles
Forrest, J. M. Jr.	San Francisco
Foster, W. M.	Los Angeles
Fountain, M. F.	Blue Lake
Fountaine, S. B.	Oakland
Fowler, A. A.	San Jose
Fowler, J. R.	San Luis Obispo
Fowler, W. S.	San Francisco
Fox, C. E.	Los Angeles
Fox, C. H.	Bakersfield
Frank, G. W.	Wichita, Kan.
Fraser, W. E.	San Francisco
Fratus, Mary E. (Mrs. Barry)	Vallejo
Frazer, T. J.	San Francisco
Frazer, I. A.	San Jose
Frazier, S. H.	Trinity, Sonoma County
Frederick, H. A.	San Francisco
Fredericks, C. J.	Oakland
Free, A. M.	Fresno
Free, G. W.	Oakland
Freeman, C. E.	Redlands

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Freeman, I. A.	Los Angeles
Freitas, E. L.	Los Angeles
French, A. W.	Saratoga
French, H. W.	Oakland
Frenzel, F. H.	Berkeley
Fugler, C. A.	San Francisco
Fullen, Theo	Los Angeles
Fuller, F. N.	Sisson
Fulsom, H. A.	Los Angeles
Gabbs, M. F.	San Francisco
Galbreath, A. J.	San Francisco
Galbraith, M. D.	Beaumont
Gallagher, C. V.	San Francisco
Gallot, J.	Santa Clara
Gallup, T. E.	Sacramento
Gambitz, L. R.	San Francisco
Gambitz, M. R.	San Francisco
Gammans, W. E.	Alameda
Garden, E. D. R.	Los Angeles
Gardner, I. P.	Los Angeles
Garrison, D. M.	San Luis Obispo
Garnett, W. M.	Los Angeles
Garrott, A. C.	Los Angeles
Garver, W. M.	Los Angeles
Gaskill, P. D.	Oakland
Gardner, R. C.	Fort Bragg
Gaston, W. A.	San Jose
Gates, H. E.	San Francisco
Gates, W. G.	Paso Robles
Gautier, L. A.	San Francisco
Gaylord, H. A.	Pasadena
Gedge, H. E.	San Francisco
Geiger, H. H.	Kennett
George, E.	Hayward
Gibson, A. L.	Ukiah
Gibson, F. R.	Tonopah, Nev.
Gibson, F. W.	Oroville
Giffen, R. B.	Sacramento
Giguette, F. A.	Pasadena
Gilbert, A. H.	San Diego
Gilbert, A. J.	Stockton
Gilbert, Amy M. (Mrs. Bowman)	Los Angeles
Gilbert, C. C.	San Francisco
Gilbert, G. W.	Fresno
Gilbertson, J. C.	Oakland
Gillam, J. H.	Coronado
Gillespie, D. S.	Los Angeles
Gilman, C. D.	Oakland
Gilman, S. M.	Oakland
Gilson, R. E.	Oakland
Gilstrop, J. M.	Fresno
Ginno, J. W.	Berkeley
Girardey, W. O.	Sacramento
Glasgow, H. J.	Fresno
Glasgow, N. B.	San Bernardino
Gleason, H. C.	Los Angeles
Glidden, M. D.	Stockton
Glatt, E. C.	Eureka
Gonzales, F. L.	San Francisco
Goddard, M.	San Francisco
Goode, W. W.	Carson, Nev.
Good, C. L.	San Diego
Goodrich, V. A.	San Pedro
Goodrich, G. A.	Pasadena
Goodearle, J. H.	Oroville
Goodman, C. D.	Oakland
Goodman, N. W.	Los Angeles
Goff, E. E.	Fortuna
Gorham, P. W.	Sacramento
Gorton, C. D.	San Francisco
Gothard, J. T.	San Diego
Gottenberg, H. W.	Sonoma
Gould, A. D.	Owego, N. Y.
Graham, F. A.	Los Angeles
Graham, G. F.	San Francisco
Graham, H. J.	Oroville
Graham, Louis	San Francisco
Graf, W. E.	Los Angeles
Grant, A. H.	Downieville
Grant, J. T.	Woodland
Gray, B. F.	Denver, Colo.
Gray, C. F.	Winchester, Ind.
Gray, F. A.	Orange
Gray, H. J.	Santa Cruz
Gray, J. W.	Los Angeles
Gray, W. S.	Marysville
Gregg, R. J., Jr.	Los Angeles
Green, M. L.	Oakland
Green, W. F.	Modesto
Greenlaw, H. T.	Superior, Wis.
Greenlaw, M. A.	San Francisco
Gresham, J. L.	Coalinga
Griffith, A. C.	San Francisco
Griitner, A. T.	San Francisco
Grimes, Alonzo	Cummings, Mendocino Co.
Griner, O. T.	Lakeport
Gross, C. F.	Oakland
Grossman, M. E.	Honolulu, T. H.
Grotefend, G. A.	Redding
Grove, L. H.	Los Angeles
Grove, W. C.	Modesto
Gruss, F. J.	San Francisco
Gunsburger, B. M.	San Francisco
Gurley, J. E.	San Francisco
Guthrie, J. E.	Los Angeles
Guthrie, T. A.	Woodland
Guyer, C. N.	Denver, Colo.
Gwin, W. R., Jr.	Los Angeles
Gwinn, W. M.	San Francisco
Hackett, A. E.	San Francisco
Hackett, C. C.	Napa
Hackett, F. M.	San Francisco
Hackett, S. A.	Oakland
Haines, B. W.	San Francisco
Hale, R. L.	San Francisco
Hall, F. A.	Stockton
Hall, R. T.	Fresno
Hall, S. H.	Stockton
Hall, S. W.	Berkeley
Hall, W. C.	Petaluma
Hall, W. H.	Denver, Colo.
Haley, G. W.	Porterville
Hallock, C. H.	Los Angeles
Halsey, N. S.	San Rafael
Halsey, W. H.	Oakland
Halstead, E. P.	San Francisco
Halstead, J. L.	San Francisco

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Hambleton, W. D.	Santa Monica
Hamilton, J. W.	Napa
Hamlin, B. R.	Alameda
Hammel, Annie R. (Mrs. Watkins)	King City
Hammond, T. F.	Palo Alto
Hammond, W. F.	Los Angeles
Hansen, C. T.	San Francisco
Hansen, W. A.	San Francisco
Hanson, H. P.	San Jose
Harbison, H. R.	San Diego
Harbour, G. W. (Weaverling)	Los Angeles
Hardy, C. S.	San Francisco
Hardy, J. R.	San Diego
Hare, D. A.	San Francisco
Hargrave, W.	Covelo
Hargrove, G. H.	Los Angeles
Harlan, Houston	Los Angeles
Harms, M. F. E.	Pleasanton
Harms, R. C. C.	Oakland
Harnden, F. W.	San Francisco
Harper, B. W.	Hollywood
Harper, C. E.	Eureka
Harrell, T. P.	Los Angeles
Harris, G. N.	Bellingham, Wash.
Harris, G. R.	San Francisco
Harris, Isabella D. (Mrs. Holm)	San Francisco
Harrison, E. L.	San Francisco
Hart, C. E.	San Francisco
Hart, O. P.	Needles
Hart, W. C.	San Francisco
Harth, A. P.	Lindsay
Hartman, P. C.	Campbell
Harvey, C. L.	San Francisco
Harwood, E. M.	Los Angeles
Harwood, H. B.	Claremont
Haselhurst, A. O.	Stockton
Hass, H. H.	Los Angeles
Hasslinger, O. A.	San Francisco
Hatch, J. H.	San Francisco
Hatcher, J. H.	Ontario
Hatcher, Laura E.	Ontario
Hathaway, C. E.	Los Angeles
Hathaway, H. W.	Los Angeles
Haughawout, H. C.	Los Angeles
Hauselt, C. P.	San Francisco
Hawley, D. E.	Antioch
Hays, A. P.	Los Angeles
Hays, A. W., Jr.	Grass Valley
Hays, H. McD.	Colton
Heacock, F. T.	San Francisco
Heacock, W. R.	Los Angeles
Head, A. W.	Los Angeles
Head, T. D.	Redding
Head, W. W.	Chico
Heaney, W. P.	San Francisco
Heider, W. T.	East Oakland
Hein, G. N.	San Francisco
Heino, Julius	Mill Valley
Heinzman, W. H.	Austin, Nev.
Heitman, F. W.	Merced
Heitman, Hubert	Merced
Heller, C. C.	Los Angeles
Heller, L. C.	Los Angeles
Henderson, H. N.	Berkeley
Henderson, Norman	Alameda
Henderson, R. W.	Stockton
Henderson, W. D.	Berkeley
Henderson, W. R.	Stockton
Hendricks, H. T.	Hanford
Hendricks, Peter	Banning
Hennessy, J. C.	Reno, Nev.
Hebert, C. P.	Riverside
Hebert, E. F.	Santa Barbara
Herkner, C. E.	Los Banos
Herman, Leonore F. (Mrs. Ginno)	Berkeley
Herms, F. W.	San Francisco
Herrick, C. A.	San Francisco
Herrington, W. M.	San Francisco
Hervey, A. R.	Santa Ana
Hergenbahn, A. E.	Los Angeles
Heseman, C. E.	Riverside
Hesketh, W. R.	Los Angeles
Hewitt, H. G.	Santa Rosa
Heyn, E. C.	Oakland
Hickey, Joseph	Portland, Ore.
Higby, N. C.	Pomona
Higgins, R. M.	Oakland
Higgins, T. S.	San Francisco
High, C. B.	Honolulu, T. H.
Hill, A. L.	San Francisco
Hill, A. S.	San Francisco
Hill, T. L.	San Francisco
Hiller, E. D.	Los Angeles
Hilliker, E. P.	Los Angeles
Hinckley, I. L.	Fillmore, Ventura County
Hines, L. B.	Lodi
Hinman, H. T.	Eureka
Hiniker, A. J.	San Rafael
Hipkins, Henry	San Francisco
Hirth, C. E.	Vernal, Utah
Hirtz, N. F.	Los Angeles
Hoagland, W. W.	Los Angeles
Hocker, J. M.	San Francisco
Hocking, Isabella Cook (Mrs. Barkman)	Turlock
Hodgen, J. D.	San Francisco
Hodges, G. A.	Turlock
Hoffer, Virgil	Santa Rosa
Hoffman, B. J.	Corning
Holcomb, C. L.	Selma
Holden, S. R.	Duluth, Minn.
Holladay, W. R.	Los Angeles
Holladay, A. C.	Long Beach
Hollingsworth, M. W.	Santa Barbara
Hollingsworth, R. M.	Manila, P. I.
Holloway, E. S.	Colusa
Holcombe, J. D.	Globe, Ariz.
Holman, F. D.	Los Angeles
Holt, Fred J.	San Diego
Homan, W. W.	Los Angeles
Honodel, W. R.	Chico
Hooker, A. H.	San Diego
Hook, B. B.	San Francisco
Hopkins, E. L.	Fresno

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Hopkins, J. C.	Los Angeles
Horn, C. M.	Los Angeles
Hosmer, E.	Los Angeles
Houck, F. H.	Anaheim
Howard, E. G.	Los Angeles
Howard, E. J.	Launceston, Tasmania
Howard, James L.	Los Angeles
Howard, J. L.	Marysville
Howard, O. J.	Fresno
Howatt, A. B.	Chicago, Ill.
Howatt, G. A.	Scotia
Houston, R. B.	Los Angeles
Howe, A. B.	Berkeley
Hubbell, A. B.	Santa Rosa
Huck, H. C.	San Francisco
Huddle, W. F.	Los Angeles
Huff, W. F.	Long Beach
Hughes, W. R.	Alameda
Hullinger, A. J.	Fresno
Hultberg, F. L.	San Francisco
Humelbaugh, A. C.	Los Angeles
Hunger, F. J.	Sacramento
Hunter, O. R.	Oakland
Hurd, E. M.	Portland, Ore.
Hurd, E. L.	Hoquiam, Wash.
Hursh, R. L.	San Francisco
Hurtt, J. M.	Pomona
Husted, C. B.	Modesto
Husted, F. R.	San Jose
Hutchason, W. E.	Los Angeles
Hutchison J. E.	Stockton
Hutton, J. A. D.	Berkeley
Hyde, E. C.	Los Angeles
Hyatt, Frank	Los Angeles
Hussey, S. W.	San Francisco
Iglehart, T. N.	San Francisco
Ingalls, R. E.	Manila, P. I.
Irgens, L. S.	Oakland
Isacson, S. W.	San Francisco
Ivey, J. R.	Nevada City
Inverarity, F.	Los Angeles
Jackson, J. A.	Oakland
Jackson, W. N.	San Francisco
Jaegeling, J. P.	San Francisco
James, E. P.	Oakland
Janes, R. K.	Pasadena
Janke, W. E.	San Francisco
Jarvis, C. C.	Los Angeles
Jarvis, C. F.	Oakland
Jefferey, J. A.	Newark, N. J.
Jenkins, F. M.	San Bernardino
Jennings, G. P.	Watsonville
Jessup, A. A.	Boise City, Idaho
Jessup, A. H.	Whittier
Jewett, Stanley	Marysville
Johnson, F. D.	Oakland
Johnson, J. H.	Waukon, Iowa
Johnson, J. W.	Portland, Ore.
Jonasen, G. H.	Goldfield, Nev.
Jones, C. V.	Sonora
Jones, E. L.	Stockton
Jones, H. McK.	Pomona
Jones, J. C.	San Francisco

Name.	Place of Practice.
Jones, L. D.	San Diego
Jones, L. G.	San Diego
Jones, P. C.	Fort Bragg
Jones, T. R.	San Francisco
Joost, Anna D. (Mrs. Roller)	San Francisco
Jordan, Minnie E.	Los Angeles
Jurgens, C. H.	Oakland
Justice, J. A.	Los Angeles
Kaiser, E. E.	Los Angeles
Kanouse, J. C.	Los Angeles
Kauffung, L. H.	San Francisco
Kaufmann, E. H.	San Francisco
Keagy, J. M.	San Pedro
Keene, H. H.	Eureka
Keefe, E. D.	San Francisco
Keel, C. W.	Monticello, Ill.
Keesing, J. B.	San Francisco
Keith, Etta G.	Portland, Ore.
Keller, P. W.	Long Beach
Kelley, G. F.	Truckee
Kellogg, A. C.	San Francisco
Kelly, A. G.	Yountville
Kelly, N. D.	San Francisco
Kemp Van Ee, F.	San Francisco
Kempe, M. V.	Oakland
Kennedy, W. F.	Los Angeles
Kenney, I. B.	Wadena, Minn.
Kent, C. H.	Los Angeles
Kenward, F. B.	San Francisco
Keogh, J. B.	San Francisco
Kerley, W. A.	Los Angeles
Kertchem, D. J.	Stockton
Kestler, F. S.	Sacramento
Kettell, H. C.	Los Angeles
Key, J. W.	San Francisco
Key, T. B.	Laton
Keyes, T. R. E.	San Francisco
Kilburn, C. M.	Watsonville
Kimerer, L. L.	Wheatland
Kincaid, C. F.	Wilkeson, Wash.
King, Birdine	Gridley
King, E. D.	Pasadena
King, H. C.	Tonopah, Nev.
King, J. F.	Oakland
King, John J.	Los Gatos
King, L. A.	Los Angeles
King, W. Z.	San Francisco
Kinley, F. J.	Healdsburg
Kirby, A. H.	Los Angeles
Kirk, H. M.	Pasadena
Kirkwood, I. S.	Smithfield, Utah
Kleeman, F. C.	Oakland
Kleiser, G. W.	San Francisco
Kleiser, J. A.	San Francisco
Kline, A. E.	Marysville or Yuba City
Knowles, C. W.	San Francisco
Knowles, S. E.	San Francisco
Knowles, W. A. L.	San Francisco
Knox, A. J.	San Francisco
Knox, H. B.	Oakland
Koenig, F. A.	San Francisco
Kroech, E. C.	Los Angeles

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Kroeck, P. H.	San Francisco
Kruse, E. A.	Berkeley
Kuns, C. A.	Los Angeles
Kutch, A. I.	Los Angeles
Kumle, Lambert	Newark, N. J.
La Baree, W. H.	Oakland
Lackey, W. L.	Porterville
Lacoste, H. L.	San Francisco
Lamb, Louis	Benicia
Lancaster, C. E.	Vacaville
Lane, C. C.	San Francisco
Lane, C. E.	Lititz, Pa.
Lane, F. J.	San Francisco
Lane, N. G. McD.	San Francisco
Lane, R. C.	Los Angeles
Lane, W. R.	Lakeport
Lang, J. E.	Los Angeles
Langdon, F. C.	Los Angeles
Lape, J. B.	Los Angeles
Larison, C. A.	Yreka
Lassen, J. P.	San Francisco
Latimer, D. H.	Hanford
Laughlin, A. O.	Valley City, N. D.
Laughlin, J. O.	San Francisco
Lauler, C. E.	Redding
Lawford, C. D. V.	Hemet and San Jacinto
Lawrence, W. H.	San Francisco
Learn, H. W.	San Diego
Leavelle, A. B.	Hollywood
Ledyard, F. K.	Los Angeles
Ledyard, B. C.	San Jose
Lee, C. E.	Los Angeles
Lee, C. G.	Oakland
Lee, C. M.	San Francisco
Leek, G. W.	San Francisco
Leek, I. G.	San Francisco
Leek, J. J.	San Francisco
Leighton, C. H.	Brooklyn, N. Y.
Lemmon, C. F.	Ventura
Lemon, C. H.	Salinas
Leonard, J. G.	Wadsworth, Nev.
Leong, Faith S. S.	Oakland
Leppo, D. H.	Santa Rosa
Leslie, F. A.	Oakland
Leslie, R. Y.	Pasadena
Leslie, W. W.	Porterville
Letcher, I. W.	San Francisco
Levinger, L. V.	San Francisco
Levy, W. H.	San Francisco
Leviston, F. E.	Oakland
Levkowicz, M. W.	San Francisco
Lewis, M. J.	San Francisco
Lewis, W. F.	Portland, Ore.
Lewis, J. W. F.	Calistoga
Likens, G. W.	Crockett
Likens, J. W.	San Francisco
Lindsay, J. A.	Sacramento
Lindsay, C. M.	Oakland
Lindsey, Chas. M.	Santa Monica
Linscott, L. M.	Santa Cruz
Litchfield, O. J.	Healdsburg
Little, G. B.	Palo Alto
Littler, Sarah J.	Petaluma

Name.	Place of Practice.
Litton, C. A.	San Francisco
Lochman, O. G.	Los Angeles
Long, G. E.	San Pedro
Locke, F. H.	Oakland
Lockwood, A. T.	Visalia
Low, W. A.	San Jose
Loughan, J. F.	Los Angeles
Lorentz, M. A.	Los Angeles
Lord, A. N.	Los Angeles
Lord, C. C.	San Diego
Lord, F. F.	San Francisco
Loring, E. L.	West Berkeley
Louisson, W. S.	Goldfield, Nev.
Lovegrove, W. R.	San Francisco
Lovejoy, F. E.	Petaluma
Lowder, W. D.	Los Angeles
Lowder, W. L.	Los Angeles
Lowers, T. H.	Los Angeles
Luchetti, A. F.	San Francisco
Luccock, J. P.	Bishop
Luce, S. T.	Selma
Ludlow, W. B.	Berkeley
Lundy, E. A.	Los Angeles
Lundborg, K. M.	Lakeport
Lyman, E. H.	San Bernardino
Lynn, T. M.	Los Angeles
Lynch, T. A.	Downey
Lyon, G. F.	San Francisco
Lyons, W. C.	Denver, Colo.
Lynn, Thos.	Los Angeles
MacDonald, Flora M.	San Francisco
MacDonald, N. G. (Mrs. Lane)	San Francisco
MacNevin, G. M.	San Francisco
Madden, F. M.	San Francisco
Maiden, W. R.	Los Angeles
Mail, W. R.	Ocean Park
Magill, J. C.	Vallejo
Mallett, Albert	Stockton
Malone, A. F.	Colusa
Malone, G. E.	Dunsmuir
Maltby, B. T.	Long Beach
Markey, C. E.	Pasadena
Marckres, C. C.	San Jose
March, H. D.	Chico
Mariotte, P. A.	Oakland
Marizuya, C. J.	Guatemala, C. A.
Marks, L. H.	Oroville
Markwitz, Louis	San Francisco
Marriott, C. H.	Santa Maria
Marsh, C. E.	San Diego
Marshall, L. C.	Vacaville
Martin, F. J.	Oakdale
Martin, F. P.	Alameda
Martin, George	Berlin, Germany
Martin, H. G.	Los Angeles
Martin, L. L.	Angels Camp
Martin, Todd	Daunt, Tulare County
Martin, Wm.	Klamath Falls
Mason, W. B.	Dunsmuir
Mason, W. M.	Berkeley
Mathews, E. S.	San Diego
Matson, A. P.	San Francisco

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Mathis, R. C	Los Angeles
Mauk, E. H	San Francisco
Mayhew, W. H	San Francisco
Mayhew, A. B	Kennett
Maynard, C. C	San Jose
Maynard, S. C	San Jose
Mazza, J. H	Petaluma
McArthur, J. F	San Fernando
McAvoy, R. C	Los Angeles
McBain, J. A	Napa
McBean, C. O	Los Angeles
McBean, W. H	Los Angeles
McCabe, Edw	Watsonville
McCan, F. A	Stockton
McCargar, Richard	Red Bluff
McCarthy, C. H	Chicago, Ill.
McCarthy, J. P	San Francisco
McCarthy, C. J	San Francisco
McCarthy, W. H	Chicago, Ill.
McCoy, J. D	Los Angeles
McClaskey, F. T	Susanville
McClinton, Ray	Launceston, Tasmania
McClish, J. M	Healdsburg
McCormick, J. J	San Francisco
McCowen, C. S	Palo Alto
McCowen, George	Ukiah
McCoy, J. C	Los Angeles
McCraken, W. J	Oakland
McCurry, J. M	Sacramento
McDaniel, G. T	San Francisco
McDonald, F. S	Los Angeles
McFarlin, R. F	Oakland
McFarland, G. H	Los Angeles
McFayden, A	San Francisco
McGaughey, C. W	Oroville
McGovern, J. C	South San Francisco
McGowan, J. E	Pomona
McGowan, J. L	Monterey
McGraw, D. E	San Francisco
McGuire, M. F	San Francisco
McHargue, W. H	Colton
McIntyre, A. A	Palo Alto
McKay, J. H	Oakland
McKean, N. D	Alameda
McKenzie, A. W	San Francisco
McKenzie, T. W	Reedley
McKibbin, Winfred M	Laton
McKinley, H. M	San Francisco
McLoughlin, G. V	San Francisco
McLaughlin, W. F	San Francisco
McLeod, A. D	Los Angeles
McLernon, T. J	Camden, N. J.
McMath, J. F. O	Oakland
MacMillan, H. A	Seattle, Wash.
MacMillan, J. E	Pasadena
McMurray, Milton	San Francisco
McNeil, H. A	Virginia City, Nev.
McNutt, R. B	Los Angeles
McMahon, L. J	San Francisco
McQueen, J. S	Bishop
McQuilkin, E. R	Pacific Grove
McWilliams, W. L	Mount Jewett, Pa.
Meek, R. W	Oakland
Meek, C. A	Berkeley
Meiseuheimer, L. L	Ocean Park
Menendez, H	Sonora
Menges, M. A	Santa Ana
Menken, P. H	Sacramento
Menne, W. A	San Francisco
Menton, H. O. F	Santa Clara
Merchant, D. N	Los Angeles
Meredith, G. H	San Francisco
Merrick, D. J	Redondo
Merritt, G. H	Oakland
Merriman, A. F., Jr	Oakland
Merrill, F. B	Chicago, Ill.
Mervy, E. T	San Francisco
Mertes, J. P	Los Angeles
Meseroll, J. M	Los Angeles
Metcalf, F. H	Sacramento
Metzger, E. S	Redondo Beach
Meyer, Albert	San Francisco
Meyer, F. W	Oakland
Meyer, H. S	San Francisco
Meyer, W. A	San Francisco
Mhoon, W. J	Oakland
Meyer, W. P	Los Angeles
Mitchell, M. N	Martinez
Middleton, J. E	Grass Valley
Miles, H. S	Los Angeles
Millard, G. A	Los Angeles
Millar, R. F	San Francisco
Miller, A. B	Crescent City
Miller, G. A	Los Angeles
Miller, G. G	Los Angeles
Miller, Herman	San Francisco
Miller, J. A	Berkeley
Miller, O. L	San Francisco
Miller, S. W	Kings City
Miller, W. C	Los Angeles
Milliken, C. T	Sacramento
Milliken, H. L	San Bernardino
Milliken, J. D	Manila, P. I.
Millberry, A. H	San Francisco
Millberry, G. S	San Francisco
Minor, I. S	Eureka
Minor, H. E	Mariposa
Minahen, G. E	Stockton
Minaker, A. W	San Francisco
Mills, C. W	Arcata
Mitchell, A. B	Los Angeles
Mitchell, H. C	Sanger
Moad, Susie R	Santa Cruz
Mobley, W. G	Oakland
Mogan, C. J	San Francisco
Montague, J. S	Los Angeles
Moody, K. C	Los Angeles
Moore, Edna F. (Mrs. Broad)	San Francisco
Moore, H. T	San Francisco
Moore, H. W	Oakland
Moore, H. W	Santa Barbara
Moore, J. C. Y	Chicago Ill.
Moore, J. E	Watsonville
Moore, J. O	San Francisco
Moore, J. S	San Diego

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Moore, L. W.	Antioch
Moore, R. I.	San Francisco
Moore, Roy	Mendocino
Moore, T. E.	Berkeley
Moorhead, T. B.	Whittier
Mooslin, Carrier J.	San Francisco
Morey, C. L.	Oakland
Morffew, Thos.	San Francisco
Morgan, A. N.	Nevada City
Morgan, T. H.	Los Angeles
Mories, A. H.	Alameda
Morris, A.	San Francisco
Morris, E. H.	San Francisco
Morris, J. I.	San Francisco
Morris, R. W.	Los Angeles
Morris, T. H.	San Francisco
Morris, W. J.	Redlands
Morrison, J. B.	Pasadena
Morrison, J. W.	San Pedro
Morse, W. D.	Pasadena
Morton, H. R., Jr.	San Francisco
Morton, R. E.	Dinuba
Mosher, G. E.	Los Angeles
Mosher, G. H.	Los Angeles
Mosher, W. J.	Oakland
Mueller, A.	Chicago, Ill.
Mutchmor, A. A.	Oakland
Munson, V. W.	Quincy, Ill.
Mundell, W. A.	San Francisco
Mungen, W. W.	Los Angeles
Mulrenin, E. M.	San Francisco
Mulvihill, D. F.	San Francisco
Murchie, D. H.	Nevada City
Murphy, C. V.	Boulder Creek
Murphy, R. N.	San Francisco
Musaute, T. A.	San Francisco
Myers, O. P. H.	San Francisco
Nash, D. E.	San Jose
Neblett, J. W.	Riverside
Neel, W. E.	Los Angeles
Neel, Ross E.	Long Beach
Nelson, W. H.	San Luis Obispo
Nevius, G. F.	San Francisco
Neu, J. P.	San Francisco
Neubauer, F.	Los Angeles
Newell, E. W.	Searchlight, Nev.
Newkirk, Carrett	Pasadena
Newgarden, Charles	New York, N. Y.
Newman, H. C.	Los Angeles
Newton, Ernest	Fort Jones
Nichols, A. E.	Riverside
Nichols, L. E.	Los Angeles
Nicolai, C. J.	San Francisco
Noble, C. C.	Los Angeles
Noble, C. G.	San Francisco
Noble, C. S.	Arroyo Grande
Noble, H. D.	San Francisco
Nordlund, W. J.	Oakland
Norman, Ida B.	San Francisco
Novitzky, J. F.	San Francisco
Nuckolls, H. M.	Turlock
Numbers, S. G.	Los Angeles
Numbers, Ava. B. H.	Los Angeles
Oates, J. A.	Compton
O'Brien, E. W.	Point Richmond
O'Brien, Jeremiah	Guatemala, C. A.
O'Connell, F. E.	Seattle, Wash.
O'Connell, G. D.	San Francisco
O'Connell, R. E.	San Francisco
O'Connell, T.	San Rafael
O'Connor, D. L.	Fortuna
O'Connor, J. T.	Sacramento
O'Connor, P. H.	Los Angeles
Odell, G. E.	Glendora
Ogden, F. R.	Oakland
Ogle, W. O.	San Francisco
Ohea, G. H.	San Leandro
Okubo, Ituge	Sacramento
Oka, N.	Los Angeles
Orella, V. P.	Stockton
O'Rourke, Wm.	Oakland
Orth, P. S.	San Diego
Osborne, M. Edna (Mrs. Masten)	Oakland
Ostrom, D. A.	San Francisco
Osenburg, E. E.	Redding
Osenburg, F. L.	Glendale
Packard, H. R.	Ontario
Packard, L. M.	Los Angeles
Packwood, L. R.	Fresno
Packson, E. S.	San Francisco
Painter, E. D.	San Francisco
Painter, J. B.	San Francisco
Pague, F. C.	Oakland
Patton, M. A.	Santa Ana
Palmer, A. H.	Pasadena
Palmer, Edgar	Los Angeles
Pancoast, F.	San Francisco
Papandre, R. D.	Oakland
Parker, A. H.	Los Angeles
Parker, E. R.	Los Angeles
Parker, C. H.	Los Angeles
Parker, F. M.	Los Angeles
Parker, Helen A. (Mrs. Criswell)	San Francisco
Parker, J. A.	San Francisco
Parker, J. E.	Pasadena
Parker, J. P.	Santa Cruz
Parker, J. Tyler	Pasadena
Parker, W. S.	Pasadena
Parr, J. T.	San Francisco
Parks, E. C.	San Francisco
Park, E. E.	San Francisco
Parks, L. H.	Sacramento
Parsons, J. G.	San Diego
Patterson, A. D.	Visalia
Patterson, R. F.	San Francisco
Paul, J. E.	Columbus, Neb.
Payne, C. S.	San Francisco
Peake, Walter	Biarritz, France
Pearce, B. F.	Oakland
Pearce, C. H.	San Francisco
Pearce, F. B.	San Jose
Pease, J. L.	Oakland
Peck, N. S.	Merced
Peel, J. M.	San Francisco
Peebles, W. F.	Los Angeles

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Pegot, L. C.	San Francisco
Peiper, E. O.	San Jose
Perry, J. C.	San Francisco
Peoples, J. W.	Petaluma
Peper, Wm.	San Diego
Pepper, C. F.	Los Angeles
Percival, W. G. M. M.	Los Angeles
Perkins, E. W.	San Francisco
Perkins, H. F.	Eureka
Perkins, P. J.	San Francisco
Perren, W. E.	San Jose
Perrault, J. T.	Oakland
Perry, E. E.	Ross Valley
Peters, E. K.	Fresno
Peters, Harry C.	San Francisco
Peters, A. B.	San Francisco
Peters, Herman C.	Los Angeles
Pescia, A. F.	San Francisco
Petterson, J. P. N.	Los Angeles
Pfister, Joseph	San Francisco
Phillips, C. E.	Fresno
Phillips, F. H.	Petaluma
Phillips, G. H.	Hanford
Phillips, H. J.	Berlin, Germany
Phillips, R. F.	Los Angeles
Phillips, W. R.	San Francisco
Phipps, I. D.	Medford, Ore.
Pickett, Burk	San Diego
Piper, S. L.	San Francisco
Pirkey, M.	Willows
Pirkey, F. Z.	Colusa
Pitres, E.	San Francisco
Pitt, Clara M.	Sebastopol
Pitt, C. S.	Sebastopol
Place, L. M.	Palo Alto
Platt, F. L.	San Francisco
Pless, F. G.	San Francisco
Pletcher, C. B.	Oakland
Plunkett, J. A.	Oakland
Polin, O. M.	San Luis Obispo
Pomeroy, G. E.	San Francisco
Poplin, R. L.	Santa Paula
Porter, C. B.	San Francisco
Porter, E. M.	Napa
Porter, J. P.	Angels Camp
Porter, L. C.	Monterey
Porter, W. S.	Napa
Porterfield, R. H.	San Francisco
Posner, M. M.	San Francisco
Post, C. E.	San Francisco
Post, F. S.	La Jolla
Poston, C. P.	Oakland
Potter, F. W.	Redding
Powell, Henry, Jr.	Hayward
Powell, A. J.	Hayward
Powell, J. D.	Sacramento
Powell, J. N.	San Francisco
Power, R. H.	Imperial
Poole, C. T.	Point Richmond
Pratt, E. W.	San Jose
Price, G. W.	Los Angeles
Price, J. T.	Los Angeles
Price, W. E.	Oakland
Prince, W. E.	Los Angeles
Prince, A. D.	San Francisco
Proctor, D. A.	Oakland
Proll, R. B.	San Francisco
Prosser, J. L.	Oakland
Pyle, F. S.	San Francisco
Quinne, J. J.	Cayton
Ramirez, X. C.	Spain
Rabe, John	East Oakland
Rader, G. O.	San Francisco
Ramsey, W. W.	Los Angeles
Randall, C. H.	San Francisco
Rankin, J. H.	Santa Rosa
Rankine, C. M.	Los Angeles
Rantz, W. A.	Placerville
Rannells, A. W.	Los Angeles
Ransom, H. E.	Los Angeles
Raugh, J. M.	Santa Ana
Rawlins, G. E.	Orland
Raymond, G. W.	Honolulu, T. H.
Rea, V. H.	Elgin, Ill.
Read, E. T.	San Diego
Reading, W. W.	Portland, Ore.
Reamer, Herman	Pasadena
Redmond, J. J.	San Francisco
Redmond, J. M.	San Francisco
Reed, A. R.	Pomona
Reed, C. W.	Santa Rosa
Reed, J. H.	Lancaster, Wis.
Reed, U. D.	Los Angeles
Regnart, P. S.	San Jose
Reich, C. L.	San Francisco
Rees, F. G.	Sacramento
Reid, H. E.	Reno, Nev.
Reid, T. B.	Sacramento
Reilly, C. F.	Fresno
Renwick, W. H.	Sacramento
Requa, H. D.	Los Angeles
Reynolds, H. C.	Palo Alto
Reynolds, P. R.	Santa Ana
Rhodes, M. T.	Berkeley
Rheinschild, P. A.	Los Angeles
Rhone, C. E.	Los Angeles
Rice, C. E.	Los Angeles
Rives, M. E.	San Francisco
Rimmer, W. H.	Los Angeles
Rice, E. V.	Azusa
Richards, C. W.	San Francisco
Richards, H. G.	San Francisco
Richards, W. F.	Sacramento
Richards, W. H.	Santa Cruz
Richards, W. P.	South Pasadena
Richardson, G. L.	Santa Paula
Richardson, E. E.	Berkeley
Richardson, C. C.	Chico
Ricks, C. C.	Willits
Rietzke, Gustave	San Francisco
Rinebold, J. J.	Etna Mills
Ritz, R. A.	Tomales
Roberts, C. M.	Pasadena
Roberts, D. E.	Murphys

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Roberts, J. M.	Los Angeles
Roberts, N. J.	Waukegan, Ill.
Roberts, S. H.	Igerna
Robinson, W. H.	Alameda
Robinson, Wilfred H.	Reno, Nev.
Robinson, R. D.	Los Angeles
Rodda, G. S.	Sacramento
Roche, H. N.	San Francisco
Roche, G. W. W.	San Francisco
Rodden, G. F.	San Francisco
Rodolph, C. T.	Oakland
Rodolph, G. W.	Oakland
Rodgers, H. B.	Watsonville
Roe, F. A.	Burlington, Iowa
Rogers, E. J.	Bridgeville
Rogers, Guy	Bakersfield
Rogers, T. L.	Berkeley
Rogers, W. W.	Pasadena
Rohner, Frank	San Francisco
Rohrer, E. J.	Highland
Roller, O. P.	Los Angeles
Ronna, Julius	San Bernardino
Rood, R. A.	San Diego
Root, C. B.	San Francisco
Rose, F. N.	San Francisco
Roper, R. J.	Prescott, Ariz.
Ross, D. H.	San Jose
Ross, F. A.	Gilroy
Ross, J. R.	Los Angeles
Rossiter, V. A.	Orange
Roudebush, L. F.	El Centro
Rudy, L. N.	Glendale
Rudee, H. E.	San Francisco
Rule, R. W.	Oakland
Rulofson, A. C., Jr.	San Francisco
Rust, A. J.	Williams
Ryan, H. G.	San Francisco
Sabichi, J. R.	Los Angeles
Sabin, C. R.	Calistoga
Salisbury, S. E.	Monrovia
Salmon, W. S.	Fruitvale
Samuels, L. G.	San Francisco
Sands, D. S.	Los Angeles
Sanderson, A. L.	San Mateo
Savage, A. H.	Pasadena
Savage, C. W.	Santa Rosa
Savage, F. L.	Livermore
Savage, S. L.	Livermore
Saul, O. M.	San Francisco
Saxby, J. B.	Santa Barbara
Saxe, F. J.	Oakland
Scannavino, J. A.	San Francisco
Schaefer, S. G.	Los Angeles
Schacht, C. W.	Jackson
Schiffman, A. F.	Los Angeles
Schiller, Maurice	San Diego
Schillig, G. E.	Marysville
Schildwachter, F. D.	Los Angeles
Scheu, R. E.	San Francisco
Schlott, E. F.	San Francisco
Schmidt, C. W.	Oakland
Schmidt, G. L.	Oakland
Schott, W. E.	Berkeley
Schroeder, E. R.	Alameda
Schroeder, R. A.	Los Angeles
Schroeder, H. C. H.	San Francisco
Schumacher, F.	San Jose
Schultz, J. J.	San Francisco
Schultz, C. H.	San Francisco
Schultheis, C. F.	Oakland
Schwartz, R. H.	Eureka
Schwaner, W. F.	Oakland
Schwartz, C. G.	Oakland
Scott, C. W.	Fruitvale
Scott, E. F.	Hollister
Scott, E. S.	Fort Bragg
Scott, E. W.	Berkeley
Scott, F. T.	San Francisco
Scott, J. H.	Sacramento
Scott, M. E.	Berkeley
Scott, W. K.	Alameda
Scudder, R. C.	Los Angeles
Schafhirt, J. B.	Oakland
Seager, H. L.	San Francisco
Seager, J. H.	Sebastopol
Seely, M. J.	San Francisco
Sehorn, W. A.	Oakland
Seibel, P. H.	San Francisco
Seiferd, F. J.	San Francisco
Sevier, L. R.	Los Angeles
Seydel, F. W.	Chico
Sexton, C. J.	San Francisco
Shankey, W. C.	San Francisco
Sharpe, T. W.	Stockton
Sharp, G. C.	Pasadena
Sharp, J. G.	San Francisco
Sharp, W. F.	San Francisco
Shartel, W. W.	Cedarville
Shaw, A. A.	Los Angeles
Shaw, F. I.	Seattle, Wash.
Shaw, H. H.	Petaluma
Shaw, I. G.	Sacramento
Shaw, J. F.	Nevada City
Sheafer J. G.	Los Angeles
Shellhorn, A. L.	Los Angeles
Shepard, E. P.	San Diego
Shepard, S. B.	Sacramento
Shepard, Wm.	Alameda
Shepherd, G. F.	Anderson
Shepherd, H. B.	Los Angeles
Sheppard, H. M.	San Francisco
Sheppard, R. H.	Redding
Sheriff, E. W.	San Diego
Sherman, C. A.	Los Angeles
Sherman, L. A.	Riverside
Shields, J. E.	San Diego
Shiina, T.	Los Angeles
Shoaff, W. R.	Los Angeles
Shoemaker, R. H.	Pasadena
Shores, F. W.	Oakland
Short, E. N.	San Francisco
Shuey, G. E.	Oakland
Shumard, E. C.	Coalinga
Sibley, R. R.	San Mateo
Sibley, W. E.	Los Angeles
Sichel, Henry, Jr.	San Francisco

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Sichel, Leo	San Francisco
Sieberst, W. H.	New York, N. Y.
Sikora, P. F.	San Francisco
Simons, B. R.	Philadelphia, Pa.
Simmons, W. A.	Represa
Simmons, W. H.	Oakland
Simmons, B. F.	San Leandro
Simms, J. B.	Arcata
Simms, T. F.	Modesto
Simpson, A. L.	San Diego
Simpson, J. H.	Oakland
Simpson, G. W.	Santa Barbara
Sinclair, L. W.	Glendale
Singleton, W. E.	Oakland
Sisson, E. K.	San Mateo
Sitherwood, D. L.	Los Angeles
Skillen, R. G.	Pasadena
Skinner, C. G.	Los Angeles
Skinner, R. B.	Long Beach
Sloan, J. H.	Santa Paula
Small, H. E.	Los Angeles
Smith, A. B.	Fresno
Smith, A. D.	Los Angeles
Smith, A. L.	Monrovia
Smith, Carl E.	Pomona
Smith, C. C.	San Bernardino
Smith, C. D.	Angels Camp
Smith, C. L.	Tulare
Smith, E. G.	Alameda
Smith, F. J.	San Jose
Smith, G. H.	Sausalito
Smith, Harry D.	Alameda
Smith, H. B.	Sonora
Smith, Henry S.	San Diego
Smith, H. O.	Sacramento
Smith, Horace A.	Los Angeles
Smith, Hulbert S.	Kirkwood, Mo.
Smith, Irving L.	Los Angeles
Smith, J. Leroy	Woodland
Smith, J. McC.	Manhattan, Nev.
Smith, Judson G.	Los Angeles
Smith, L. T.	Rio Vista
Smith, M. E.	San Francisco
Smith, N. R.	Santa Monica
Smith, Robert E.	Santa Rosa
Smith, R. E.	Sacramento
Smith, Sydney A.	San Diego
Smith, T. Sydney	Palo Alto
Smith, T. M.	San Francisco
Smith, W. Albert	Los Angeles
Smith, Wm. C.	Pasadena
Smitt, Uriel	Chico
Smyth, T. U.	San Francisco
Smyth, W. J.	Oakland
Snavely, A. C.	Los Angeles
Snavely, M. E.	Los Angeles
Snell, A. T.	Los Angeles
Snell, Edward	Lincoln
Snodgrass, E. F.	Los Angeles
Snook, J. C.	National City
Snow, F. T.	San Jose
Snyder, G. A.	San Luis Obispo
Sobey, A. L.	Berkeley

Name.	Place of Practice.
Sobey, A. W.	San Francisco
Soher, H. C.	San Francisco
Solley, A. A.	San Francisco
Somersett, J. C.	San Francisco
Somerville, J. A.	Los Angeles
Sontheimer, A. R.	San Jose
Soule, S. H., Jr.	Los Angeles
Southworth, E. L.	Sacramento
Southworth, S. S., Jr.	San Francisco
Southworth, S. S., Sr.	Bolinas
Spangler, N. R.	Dixon, Solano County
Sparks, E. F. K.	Los Angeles
Sparrevohn, H. P.	Los Angeles
Spates, A. P.	Los Angeles
Speer, G. B.	Los Angeles
Spencer, R. L.	Los Angeles
Sperr, A. H.	Long Beach
Spicer, P. F.	Salina, Utah
Spinks, A. M.	Los Angeles
Spinks, M. E.	Los Angeles
Spinks, W. H.	Los Angeles
Sprague, G. H.	Glendora
Sprake, W. T.	Cassleton, N. D.
Spratt, C. W.	Douglas City
Squier, R. M.	Napa
Staire, H. M.	Oxnard
Staire, J. M.	Ventura
Stalder, J. M.	Oakland
Stambaugh, C. D.	Los Angeles
Stanford, C. G.	San Francisco
Stanton, J. C.	Fairfield
Stapff, F. W.	San Francisco
Stare, C. B.	Los Angeles
Stark, T. A.	San Francisco
St. Clair, J. A.	Newman
Stealey, T. S.	San Francisco
Steele, J. F.	Los Angeles
Steinwand, A. R.	Selma
Steinhilber, Minnie (Mrs. Proctor)	Los Angeles
Stephens, C. J.	San Francisco
Stephenson, H. H.	Sacramento
Stern, H. S.	San Francisco
Stevens, A. J.	Los Angeles
Stevens, Cicero	Los Angeles
Stevens, F. E.	Los Angeles
Stevenson, H. H.	San Francisco
Stewart, C. L.	Grass Valley
Stewart, G. H.	Oakland
Stewart, J. H.	Downey
Stewart, J. H.	Santa Barbara
Stewart, Robert	Quincy
Stewart, R. W.	Long Beach
Stich, B. M.	San Francisco
Stickel, B. J.	San Francisco
Stickel, J. L.	San Francisco
Stickney, F. W.	Santa Barbara
Stiles, H.	San Francisco
Stineman, J. H.	Roseville
Stinson, C. G.	Santa Barbara
Stirling, M. G. F.	San Francisco
Stocking, C. H.	Los Angeles
Stokes, F. R.	San Francisco

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Stokes, T. P.	San Francisco
Stoll, B. F.	San Francisco
Stonebrook, H. B.	Pasadena
Stone, J. T.	Petaluma
Stone, W. W.	Placerville
Strickland, S. L.	San Francisco
Strong, T. E.	San Francisco
Stofflet, J. H.	Bishop
Stokes, A. W.	San Francisco
Strasser, J. E.	Los Angeles
Strub, C. H.	San Francisco
Stryker, W. C.	Pasadena
Stuart, S. L.	Ventura
Stuttmeister, W. O.	Redwood City
Sugget, A. H.	San Francisco
Sutherland, A. W.	Jackson
Sullivan, H. F.	Oakland
Sullivan, A. S.	San Francisco
Sullivan, T. X.	San Francisco
Sullivan, J. P.	Lagunitas
Sullivan, M. J.	San Francisco
Sullivan, J. L.	Marysville
Summers, R. A.	Oakland
Sumner, C. M.	Placerville
Swain, Homer	Chico
Swain, E. M.	San Francisco
Swain, H. P.	San Francisco
Swanberg, N. A.	Seattle, Wash.
Swartwout, L. D.	Los Angeles
Sweet, W. S.	Long Beach
Sweetser, L. O.	San Francisco
Swigert, G. O.	Santa Ana
Sykes, A. E.	Oakland
Sylvester, A. J.	San Francisco
Sylvester, H., Jr.	San Francisco
Sylvester, C. W.	Los Angeles
Symington, W. H. L.	Santa Monica
Symmons, S. J.	Oakland
Sutherland, B. C.	Los Angeles
Taber, M. E.	Riverside
Taft, F. E.	Oakland
Taggert, J. E.	Burlington, Va.
Tait, E. R.	Oakland
Takagi, B. S. N.	Los Angeles
Talbott, H. I.	Goldfield, Nev.
Talbott, J. L.	Lompoc
Tate, S. P.	Oakland
Taylor, A. Q.	Los Angeles
Taylor, A. W.	Berkeley
Taylor, C. C.	San Francisco
Taylor, F. S.	Los Angeles
Taylor, R. L.	San Anselmo
Taylor, W. J.	Sacramento
Taylor, W. N.	Diamond
Teague, Fred	San Francisco
Tennyson, C. B.	Lodi
Tennyson, H. A.	San Jose
Terry, C. H.	San Francisco
Terry, T. D.	Sacramento
Terzian, P. G.	Sacramento
Thatcher, J. W.	San Francisco
Therkof, G. A.	Livermore
Therkof, G. H.	San Francisco
Thomas, C. L.	Los Angeles
Thomas, J. R.	Ukiah
Thomas, Montgy	Fresno
Thomas, W. G.	Grass Valley
Thompson, E. H.	San Diego
Thompson, W. L.	Vallejo
Thornburg, F. S.	Pasadena
Thurston, J. H.	Los Angeles
Tibbitts, A. G.	Los Angeles
Tibbetts, A. L.	Petaluma
Timerman, E. C.	Oakland
Timmons, A. J.	Mountain View
Tizzard, S. B.	Los Angeles
Tobriner, Oscar	San Francisco
Todd, Baxter	Los Angeles
Todd, C.	Sacramento
Todd, P. I.	Los Angeles
Todd, R. A.	Corona
Tolton, C. J.	Sacramento
Tomkins, G. H.	East Oakland
Tomlinson, C. McR.	Eureka
Toprahanian, A. G.	Imperial
Toprahanian, H. C.	New York, N. Y.
Townsend, E. L.	Los Angeles
Townsend, J. R.	Pasadena
Townsend, Wilber	Burbank
Toye, W. O.	San Francisco
Towson, Leroy	Vacaville
Trafford, H. L.	Los Angeles
Travers, H. P.	Oakland
Treen, T. O.	Los Angeles
Treen, R. de G.	Los Angeles
Tremper, R. H.	Ontario
Tristram, G. T.	Chicago, Ill.
Trueman, H. G.	San Francisco
Truitt, S. P.	Pacific Grove
Tryon, W. M.	San Francisco
Tucker, A. C.	San Bernardino
Tucker, I. L.	Oroville
Tufts, J. B.	San Francisco
Tufts, Leroy	Berkeley
Turner, H. C.	San Andreas
Turner, P. T.	Tracy
Turner, R. L. H.	Los Angeles
Turner, Rosa E. (Mrs. Bowker)	Modesto
Turner, W. A.	Angels Camp
Tully, C. F.	Madera
Twiggs, W. A.	San Francisco
Twist, J. F.	San Francisco
Uhl, W. T.	Los Angeles
Ulsteen, E. A.	Oakland
Unland, T. H.	Los Angeles
Updyke, R. P.	Los Angeles
Upton, E. A.	Oakland
Urmy, H. N.	Los Angeles
Usher, C. W.	Coalinga
Van Amringe, D. R.	Sonoma
Vanderhurst, A. S.	San Francisco
Van Crom, A. L.	Upland
Vanderlip, J. T.	San Francisco
Vanderlip, G. G.	San Rafael
Vandever, G. Y.	San Francisco
Van Orden, G. N.	San Francisco

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Van Orden, Leander	San Francisco
Van Schoick, C. H.	Colfax, Wash.
Van Vleck, J. D.	Los Angeles
Van Wormer, E. B.	Upland
Van Wyck, Crit	San Francisco
Vawter, M. B.	Los Angeles
Veale, A. F.	San Francisco
Vecki, V. J.	Danville
Vicary, E. E.	Oakland
Viersen, L. A.	Santa Ana
Viney, A. W.	Pasadena
Vogel, T. A.	San Francisco
Vogelman, A. R.	Modesto
Vogelman, D. J.	Vallejo
Voorhees, Perry	Los Angeles
Wachs, M.	Oakland
Wachhorst, N. B.	San Francisco
Wadsworth, W. H.	Berkeley
Waddell, E. H.	Exeter
Wagner, R.	Los Angeles
Waggoner, L. B.	Sacramento
Wait, R. L.	Sacramento
Walk, C. L.	Dunsmuir
Walk, J. J.	Oakland
Walker, G. H.	Los Angeles
Walder, Hans	San Rafael
Walker, Luella (Cool)	Oakland
Wall, A. C.	Honolulu, T. H.
Wallace, A. C.	San Francisco
Wallace, A. H.	Oakland
Wallace, L. E.	San Francisco
Wallace, W. G.	Stockton
Walsh, R. L.	Napa
Walsh, W. E.	National City
Walton, P. J.	Fruitvale
Walton, S. L.	San Jose
Wanberg, G. E.	Marshalltown, Iowa
Ward, A. W.	San Francisco
Ward, H. B.	San Francisco
Ward, J. N.	East Auburn
Wardlow, H. J.	Los Gatos
Ware, W. H.	San Francisco
Warnekros, W. I.	Santa Barbara
Wasley, D. W.	Paradise
Wasson, J. C.	San Jose
Wassman, Max	San Jose
Waterbury, J. E.	San Luis Obispo
Waterman, E. R.	Roseville
Watkins, F. D.	Napa
Watkins, W. H.	Oakland
Watson, S. E.	San Diego
Watts, L. W.	Oakland
Weaver, C. R.	Alameda
Webber, P. A.	Sacramento
Webster, F. E.	Suisun
Weisbach, L. C.	San Francisco
Weldon, C. A.	Vacaville
Weldon, E. J.	Sacramento
Wessell, G. W.	Los Angeles
West, R. C.	Tracy
West, Russell C.	Arbuckle
Weston, C. S.	Oakland
West, R. F.	San Francisco
Westphal, E. W.	San Francisco
Westphal, O. F.	San Francisco
West, J. A.	Los Angeles
Wheeler, T. R.	Clio or Johnsville
Whelan, W. A.	San Francisco
Whelan, W. F.	Santa Monica
Whitcomb, S. E.	San Francisco
White, A. L.	San Francisco
White, C. M., Jr.	Chico
White, G. A.	Santa Barbara
White, H. C.	Benicia
White, J. M.	Los Angeles
White, A. T.	Newcastle, Ind.
Whitley, C. H.	San Francisco
Whitman, E. W.	Sacramento
Whitted, Chas.	Santa Ana
Whitted, R. E.	Santa Ana
Whomes, Arthur	Los Angeles
Whomes, George	Los Angeles
Whomes, R. W.	Los Angeles
Wilbur, P. S.	Bakersfield
Wilcox, W. C.	Stockton
Wilcox, W. I.	San Francisco
Wilcoxon, C. R.	Woodland
Wild, M. C.	Harlingen, Texas
Wilder, D. R.	Los Angeles
Wilder, J. O.	Sacramento
Wilkins, F. E.	Oakland
Wilkins, Nano Lee	San Francisco
Wilkins, P. J.	Colusa
Willard, S. S.	Corona
Williams, Carlos	East Auburn
Williams, C. C.	Fresno
Williams, C. E.	Los Angeles
Williams, E. G.	Oakland
Williams, E. G.	Lodi
Williams, J. J.	Pacific Grove
Williams, J. K.	Los Angeles
Willey, H. D.	Fruitvale
Willsey, T. F.	Napa
Willoughby, C. E.	Santa Barbara
Wilson, C. E.	San Francisco
Wilson, H. D.	Los Angeles
Wilson, J. F.	Jackson
Wilson, O. T.	Oakland
Wilson, W. C.	Gridley
Wing, Geo.	Ferndale
Wing, Wm.	Eureka
Wise, Fannie E. (Scott)	Oakland
Wise, Chas. F.	Oakland
Wishard, Frederick W.	Highland
Wismer, P.	San Francisco
Wolfe, F. de K.	Fresno
Wolf, F. O.	Yokohama, Japan
Wood, C. C.	Oakdale
Wood, Wm.	Roseville
Woodruff, W. B.	Denver, Colo.
Woodward, W. S.	Brooklyn, N. Y.
Wool, R. E.	Ocean Park
Woolley, P. J.	Sunnyvale
Woolsey, E. G.	Ione
Woolsey, R. I.	Berkeley
Worrall, G. H.	Santa Clara

REGISTER OF LICENSED DENTAL PRACTITIONERS—Continued.

Name.	Place of Practice.
Worthington, Jean I. (Mrs. Bennett)	Bakersfield
Worthington, Mazie M.	Bakersfield
Worthley, A. H.	Colfax
Wren, J. S.	Loyalton
Wright, A. O.	Oakland
Wright, P. B.	Milwaukee, Wis.
Wright, R. B.	Oakland
Wright, W. S.	Lompoc
Wuillemin, P. M.	San Francisco
Wymore, G. H.	Santa Rosa
Yant, G. A.	San Jose
Yant, Henry	Leadville, Colo.
Yemen, J. P.	Yuma, Ariz.
Young, C. E.	San Francisco
Young, J. A.	San Diego
Young, J. E.	San Francisco
Young, J. R.	Chico
Young, R. J.	Tulare
Younger, E. A.	San Francisco
Yount, G. B.	Redwood City
Yoshinaga, M.	Sacramento
Zeigler, C. L.	San Francisco
Zeller, M. J.	San Francisco
Zimmermann, Allen	Salt Lake City, Utah

DECEASED LICENTIATES.

Adams, Q. L.
Arbeely, H. J.
Archer, I. B.
Arnold, Otto
Austin, H.
Baldwin, F. M.
Bates, B. F.
Baynes, H. F.
Beers, Barrett
Belden, R. K.
Bendix, C. W.
Bernard, Geo.
Bernard, H. A.
Bertrand, E. H.
Birge, J. J.
Blake, C. E.
Blake, R. J.
Blondin, Arthur
Blood, J. N.
Bolton, Thomas
Bometter, Frank
Botsford, George
Bowles, J. B.
Boyd, C. W.
Boyd, G. H.
Brainard, A. D.
Brewer, John L.
Briggs, C. M.
Brigham, K. A.
Brower, R. C.
Bryan, A. C.
Burch, M. A.
Burgess, R. F.
Burleson, F. D.
Burnette, E. F.
Cafferato, A.
Caldwell, F. M., Sr.
Card, I. D.
Card, W. H.
Case, G. A.
Case, I. M.
Cavanaugh, C. S.
Chapman, Nellie E.
Chapman, S. A.
Clark, F. N.
Clark, M. E.
Cogswell, J. L.
Cole, H.
Cole, R. E.
Combs, H. M.
Coomes, A. M.
Cook, Israel
Cool, W. P.
Cooper, G. W.
Copsey, A. N.
Cowan, E. L.
Cranz, F. H.
Craig, W. H.
Croone, Wm.
Cutlar, R.
Davenport, A. C.
DeCrow, Warren
Dempster, Jas.
Dennis, S. W.
Dentler, E. F.
Dick, W. A.
Dodge, H. D.
Dohrman, W. F.
Domeniconi, Jas.
Dorrance, F. C.
Doulton, G. H.
Doyle, J. H.
Drucker, W. E.
Dutch, Wm.
Dunbar, L. L.
Dunn, J. H.
Dyer, J. J.
Ellis, P. L.
Emerson, E. W.
Esterle, A. M.
Evans, W. H.
Farmer, E. W.
Farnsworth, J. F.
Fickett, S. H.
Finigan, L.
Fisher, F. H.
Fitzpatrick, Wm.
Forbes, W. W.
French, L. W.
Gardinier, Thos.
Gates, O. J.
Gazarian, H.
Gibbon, J. A.
Gildea, B. M.
Goddard, C. L.
Goe, S. E.
Gonzales, I. T.
Goodell, L. E.
Gordon, O. L.
Gould, H. W.
Graham, L. E.
Graves, U. L.
Gray, John
Gray, R. F.
Gray, W. O.
Greenbaum, L.
Griswold, W. F.
Griesser, A. M. H.
Hale, L. T.
Halsey, I. S.
Hann, W. D.
Harlan, C. N.
Harris, G. M.
Harris, S. M.
Hart, A. C.
Hartmann, W. P.
Hatcher, S. H.
Hearn, F. G.
Hendricks, J. D.
Herron, H. H.
Hitchcock, J. W.
Hodgen, I. N.
Hoffman, M.
Hooker, A. O.
Hogshead, W. H.
Hollingsworth, J. W.
Holmes, Stephen
Horner, J. Van C.
Hyde, A. T.
Hyde, C. G.
Jacobs, B. R.
Jenkins, O. C.
Jennin, E. L.
Jessup, J. G.
Jewell, W. S.
Kerwin, L. J.
Kincaid, S. W.
Kingsbury, W. B.
Kitchen, C. A.
Knapp, A. R.
Knepper, G.
Knox, H. E.
Knowlton, J. S.
La Due, W. K.
Lansdowne, F.
Larkin, G. W.
Lawrence, G. O.
Lee, D. B.
Lee, E. W.
Lee, L. A.
Libbey, J. L.
Light, W. W.
Lightbody, H., Jr.
Lillard, W. F.
Little, F. F.
Little, J. R.
Livermore, G. W.
Locke, C. W.
Lovejoy, G. E.
Lucas, D. L.
Lundborg, J. A. W.
Macdonald, A. E.
Marsh, W. J.
Marshall, Mabel E.
McAlpin, A. C.
McCargar, P.
McGettigan, C. A.
Merriman, A. F., Sr.
Mitchell, H. H.
Moad, B. R.
Moody, J. D.
Moore, C.
Moore, J. S.
Moore, W. A.
Morton, H. R., Sr.
Moterne, C. F.
Moulton, C. R.
Mueller, F. E.
Musselman, S.
Neumann, L.

DECEASED LICENTIATES—Continued.

Newsom, G. W.
Norman, G. H.
Nye, W. E.
Vidaver, N. J.
Von Bonhorst, C. G.
Wade, Thos.
Walker, A. J.
Walker, C. H.
Waltz, G. W.
Ward, S. T.
Webster, L. D.
Wells, L. W.
Westover, G. C.
Whipple, T. S.
Whittaker, E. E.
White, F. H.
White, J. R.
Whitlock, Alma
Wilbert, J. L.
Williams, V. A.
Winter, J. W.
Winter, W. G.
Wooley, P. J.
Oviatt, S. M.
Parr, W. H.
Parsons, M. W.
Pendleton, B. F.
Pennington, A. R.
Perkins, C. O.
Petton, L. D.
Pierson, H. H.
Porter, J. M.
Porter, J. S.
Pospisiel, J.
Prather, W. J.
Quick, E. P.
Rainey, T. H.
Rau, Henry
Ray, C. B.
Read, W. S.
Reith, W. C.
Relley, J. W.
Remington, J. W.
Roberts, H. F.
Rogers, E. P.
Rogers, F. S.
Ross, C. G.
Root, W. A.
Rubell, W. H.
Russell, E. W.
Sand, J. E.
Sanford, L. N.
Saul, G. M.
Schwartzchild, F.
Sheets, H. C.
Shields, F. M.
Shrewsbury, N.
Sichel, Max
Simms, C.
Smith, F. Z.
Smith, J. B. M.
Smith, R. W.
Smith, W. B.
Spaw, C. R.
Stanley, W. H.
Stauffer, H. W.
Stealey, E. M,
Stephenson, C. H.
Strain, E. L.
Sublett, W. A.
Swift, T. E.
Swigert, H. I.
Taggart, D. R.
Tebbets, F. F.
Thrall, H. H.
Tulles, Morgain
Tyson, Chas.
Upchurch, N. B.
Upham, F. F.
Van Aukin, J. R.
Van Winkle, H. M.
Verrinder, R. T.

BIENNIAL REPORT

OF THE

Board of State Harbor Commissioners

FOR THE

FISCAL YEARS COMMENCING JULY 1, 1908, AND ENDING
JUNE 30, 1910.

COMMISSIONERS:

W. V. STAFFORD President, WALTER E. DENNISON, PHILIP S. TELLER.

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1910

BOARD OF STATE HARBOR COMMISSIONERS.

WALTER V. STAFFORD, *President*, - - - Commissioner.
WALTER E. DENNISON, - - - - - Commissioner.
PHILIP S. TELLER, - - - - - - Commissioner.

WALTER B. THORPE, - - - - - - - Secretary.
JAMES BYRNE, Jr., - - - - - - - Assistant Secretary.
RALPH BARKER, - - - - - - - Assistant State Engineer.
WILLIAM H. DAVIS, - - - - - - Attorney.

OFFICE:

UNION DEPOT AND FERRY HOUSE, SAN FRANCISCO, CAL.

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BIENNIAL REPORT

OF THE

BOARD OF STATE HARBOR COMMISSIONERS.

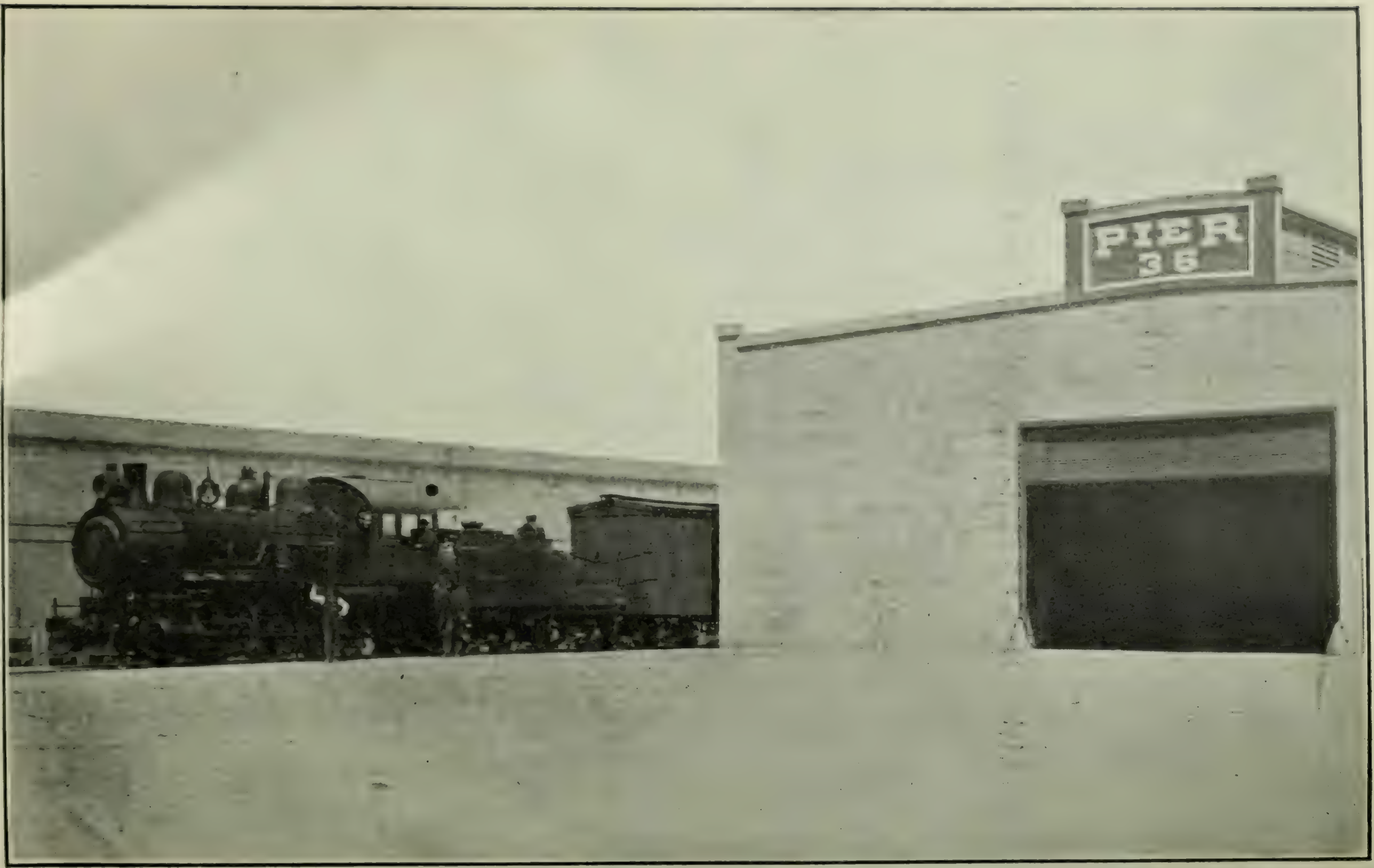
San Francisco, California, September 8, 1910.

To His Excellency, The Honorable James N. Gillett,
Governor of the State of California, Sacramento, California.

Sir: As required by law, the Board of State Harbor Commissioners for the harbor of San Francisco herewith respectfully submits its biennial report for the two fiscal years commencing July 1, 1908, and ending June 30, 1910, embracing in detail all financial transactions of this public department and describing the work accomplished during the period named.

Respectfully yours,

WALTER V. STAFFORD, President,
WALTER E. DENNISON,
PHILIP S. TELLER,
Board of State Harbor Commissioners.



Pier 36. with Belt Railroad engine and cars.

INTRODUCTION.

Except for a provision authorizing the Board of State Harbor Commissioners to provide for and to maintain open fairways in the bay of San Francisco for the clear passage of the transbay ferryboats, the jurisdiction of the Board is confined by law to the State property along the water front of the city and county of San Francisco between the eastern end of the Presidio reservation and the boundary line between the counties of San Francisco and San Mateo. The statistics and other data contained in this report refer to this property alone, which consists of the seawall, the seawall lots created by the reclamation of tide lands, East street for its entire length and other water front streets created by reclamation, and all the piers and wharves in the city and county of San Francisco except those belonging to the Federal Government at the Presidio and at Fort Mason, those belonging to the Union Iron Works at Central Basin and at Hunter's Point, and that of the Western Sugar Refining Company at the foot of Twenty-third street. The commerce handled at the state wharves, which is all with which this report deals, is but a part of the entire commerce of San Francisco bay and harbor, which includes that of the stream, of Oakland, of Point Richmond, of Port Costa, and other bay points. The Board of State Harbor Commissioners has no official cognizance of any of these.

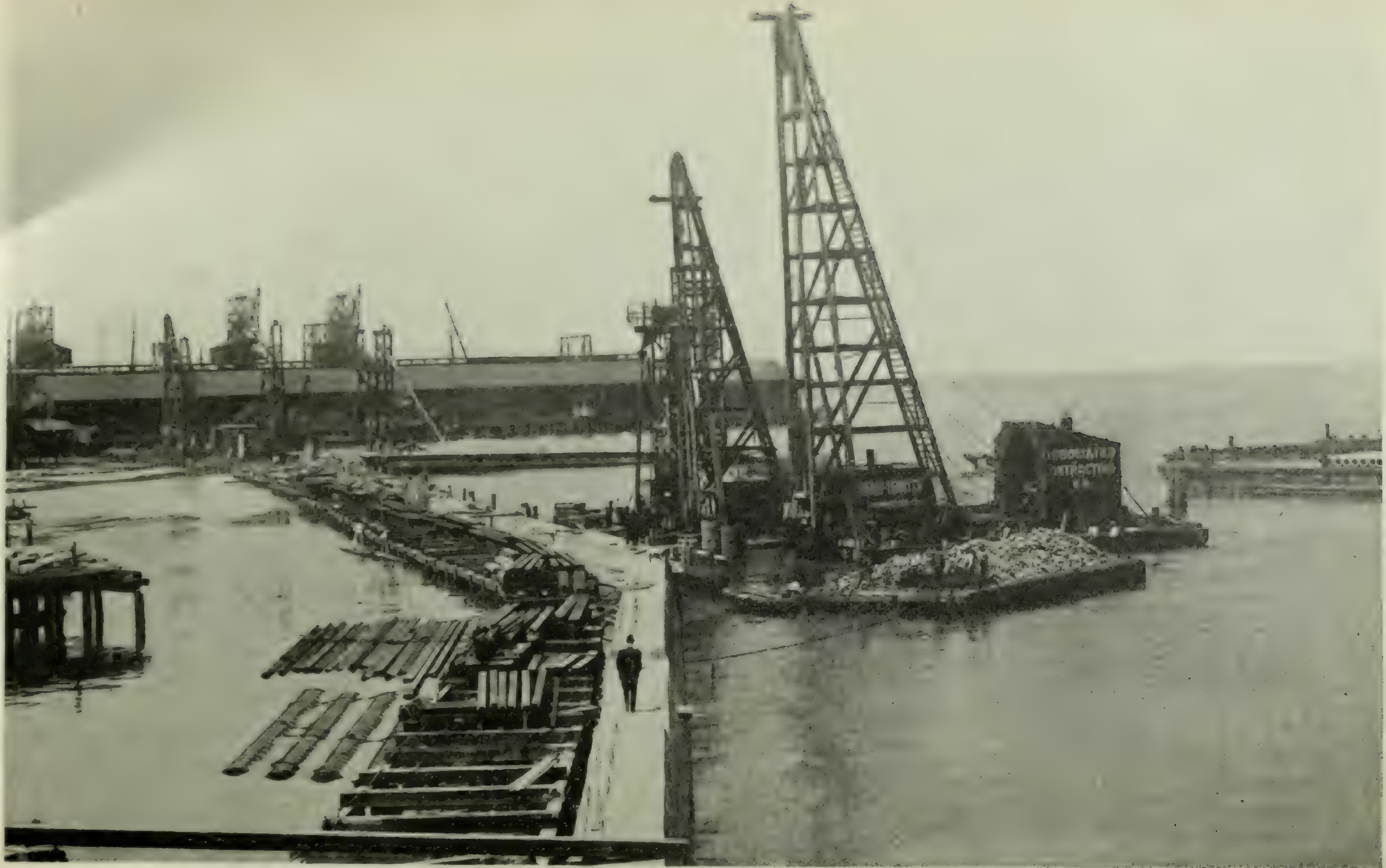
In addition to the report of the Board, there are submitted herewith the reports of the Engineer, of the Attorney, of the Superintendent of the Belt railroad, and of the Expert Accountant to the Board, together with tables giving the receipts and disbursements of the Board for the two fiscal years from July 1, 1908, to June 30, 1910, and from the creation of the Board in its present guise, in 1863, to June 30, 1910; the states of the San Francisco Harbor Improvement, San Francisco Seawall, and San Francisco Depot funds, with the payments made to and from them; the state of the Deferred Payment Draft Account (now nearly extinguished); the operation of the Belt railroad; the extent and cost of completed seawall; the contract work completed since June 30, 1908, and that under way June 30, 1910; the revenues and rentals from seawall lots and other state property; the amount and cost of dredging from June 30, 1875, to June 30, 1910; a comparison of the revenues, expenditures, and indebtedness of typical seaports with publicly owned docks; statistics of vessels of every kind using the state wharves of San Francisco; the amount and character of freight handled over the state wharves.

In the shipping statistics, vessels are credited with net tonnage throughout, not with gross tonnage, as in some statistical shipping reports.

The prevailing charges for towage and pilotage in and out of the bay of San Francisco are appended, as being of general interest, although the Board of State Harbor Commissioners has no voice in fixing them.

PART I.

REPORT OF THE BOARD.



Section 9 of the seawall in process of construction. Flooded area to the left is now being filled in to make seawall lots.

PRESENT CONDITIONS OF THE STATE WATER FRONT PROPERTY OF SAN FRANCISCO.

Development of the docking facilities.

During the period of two fiscal years which ended June 30, 1910, the work of developing and improving docking facilities along the water front of San Francisco progressed steadily, the money for the purpose having been provided by the sale of seawall bonds authorized by the act of the legislature approved March 21, 1903, and ratified by the electors of the State the following year, and by the revenues of the state property turned into the San Francisco Harbor Improvement Fund.

On June 30, 1908, the state's piers, exclusive of dry dock wharves, numbered 30. Since that date, five of the old piers have been removed, three of the best modern pattern have been built, two more are in course of construction, the dry dock wharves have been remodeled, 900 feet of new seawall has been constructed, and 1,485 feet more is under construction. During the same period, 2,710 feet of bulkhead wharf has been completed and 1,485 feet more is under construction, to be added to the 18,753 feet completed June 30, 1908. The trackage of the Belt railroad has been increased from 20,765 to 31,015 feet. Details of the new construction will be found in the report of the Engineer, and details of the development and operation of the Belt railroad in the report of its Superintendent.

The total proceeds from the sale of seawall bonds, and interest thereon, amounted to $2,019,250.63, and all of this, except a balance of $308,974.69 on hand, has been expended in the construction of seawall and docks, with the result that a great street area and seawall lots aggregating over a million dollars in value have been created, the new property being leased as fast as acquired at a good rate of interest upon its valuation.

The last contract for work under the provisions of the seawall bond issue law of 1904, which will add three more seawall lots with a valuation of about $700,000, has been entered upon and will be completed by the end of the current calendar year, when, unless another fund is provided, extensive harbor improvement, of permanent, durable, and up-to-date character, must cease.

The demand for a continuation of the work of development along the lines followed during the past three years is imperative. While all of the new docks completed in recent years are of the best and most durable and convenient type, there remain many old wooden docks, costing large sums to keep in repair, and even with the best care not likely to survive much longer. Furthermore, the commerce of the port of San Francisco is steadily increasing with acceleration that will become greater and greater with the opening of the Panama canal and the inevitable growth of trade in the Pacific ocean. San Francisco possesses all of the prime requisites of a great seaport except ample docking facilities. The port is spacious, it is well defended, it is admirably sheltered against severe storms, its extreme tidal range is only about 8 feet and the mean less than 5 feet, it offers excellent anchorage in moderate depth of water, with fine holding ground, and, in a word, it is ideal as far as natural conditions are concerned. It is the terminal point of three great transcontinental railroads, and has at its gates a vast, rich, and growing hinterland. All it needs is betterment of its dock system.

The water front line of San Francisco, under the jurisdiction of the Board of State Harbor Commissioners, is approximately eight miles in length. On June 30, 1910, there were in existence along this line 11,700.5 feet of completed seawall, 30 piers, and 23 seawall lots, which lots, together with the land owned by the State around Central Basin, have a total area of 1,104,275 square feet, or 25.3 acres.

The piers and bulkhead wharves offer about five miles of berth space at the present time. If the water front were developed for its entire length from Taylor street to the San Mateo county line, with piers 210 feet wide and 800 feet long, having a space between them 250 feet wide, the entire length of the contour of the piers and bulkheads would be 193,640 feet, or 36.6 miles. If the piers were 140 feet in width and 800 feet long, with 220 feet space between them, there would be a total length of contour of 235,200 feet, or 44.5 miles. There would be 94 of the larger piers and 120 of the smaller ones. These calculations do not include any space in Channel street, in Central or India basins or Islais creek.

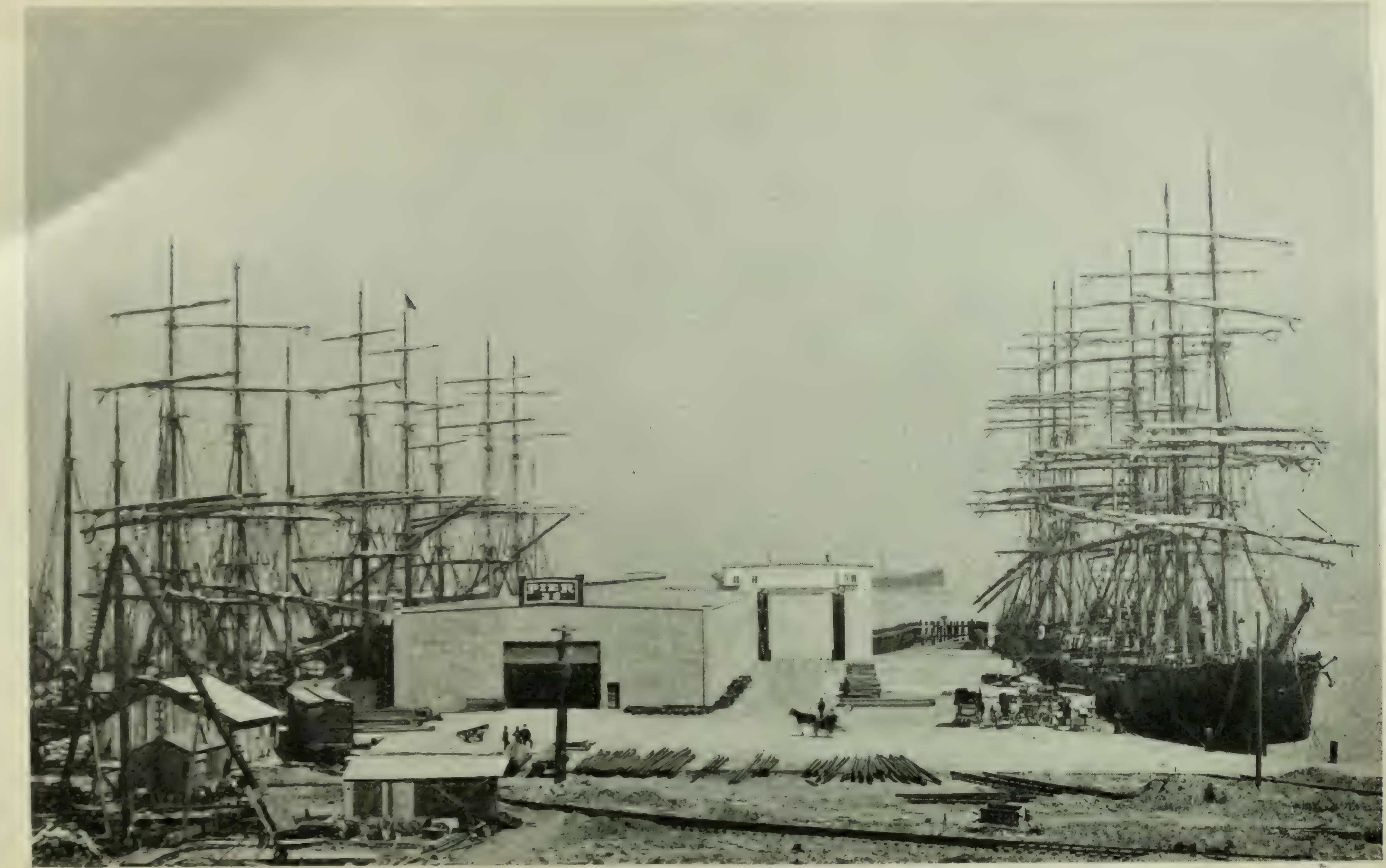
It is thus seen that the dock facilities of San Francisco may be expanded enormously, with ease.

By the construction of a new seawall and the reclamation of the land between it and the previously existing city front, the property of the State is greatly increased. From the new seawall lots created, large revenues are derived, for these lots are located in a part of the city where real estate is ever in demand and tenants never lacking. The lots already created have been let at good rentals, many of them for long periods, provision having been made for regular increases in rates every five years to conform with the future increase of valuations with the growth of the city.

Definition of the water front line.

The water front line, sometimes called the bulkhead line or the seawall line, to which the Board of State Harbor Commissioners is empowered by law to extend the seawall seaward and create lands within it, was determined about 33 years ago. On September 12, 1877, Governor William Irwin, of California; Mayor Andrew J. Bryant, of San Francisco, and Harbor Commissioners William Blanding (president), Bruce B. Lee, and A. M. Burns, agreed upon and submitted to the legislature for ratification a water front line thus defined:

A line parallel to and distant 200 feet outwardly or seaward from a line described as follows: Beginning at a point in the prolongation northerly of the eastern boundary of the Presidio reservation, distant 200 feet northerly from the northerly line of Lewis street, said distance of 200 feet being measured at right angles to the line of Lewis street; thence in a straight line and parallel to Lewis street to the westerly line of Webster street; thence in a straight line to the intersection of the westerly line of Polk street with the southerly line of Lewis street; thence in a straight line to the intersection of the westerly line of Powell street with the southerly line of Jefferson street; thence in a straight line to the intersection of the westerly line of Dupont street with the southerly line of Beach street; thence in a straight line to the intersection of the southerly line of North Point street with the westerly line of Kearny street; thence in a straight line to the intersection of the northerly line of Francisco street with the easterly line of Montgomery street (said streets being estimated at 150 feet in width); thence in a straight line to the intersection of the southerly line of Lombard street with the westerly line of Battery street; thence in a straight line to the intersection of the southerly line of Filbert street with the westerly line of Front street; thence in a straight line to a point in the southerly line of Pacific street distant 75 6-12 feet easterly from the easterly line of Drumm street; thence in a direct course toward the intersection of the northerly line of Mission street with the westerly line of East street to a point 283 feet, measured in a said course northerly from the northerly line of Mission street; thence in a straight line to the intersection of the southerly line of Folsom street (as the same is laid out west of Steuart street) with the westerly line of East street; thence in a straight line passing through the point formed by the intersection of the northerly line of Harrison street with the westerly line of Steuart street, to a point 137½ feet southerly from the southerly line of Harrison street (said distance of 137½ feet to be measured at right angles to Harrison street); thence in a straight line to the intersection of the westerly line of Spear street to the northerly line of Bryant street; thence in a straight line to the intersection of the westerly line of First street



Alaska packers' vessels at new pier No. 36, immediately after its completion. East street in process of development in foreground.

with the northerly line of Townsend street; thence southerly in a straight line 3,300 feet to a point 640 feet easterly from the westerly line of Kentucky street (said distance of 640 feet to be measured at right angles to Kentucky street); thence in a straight line to the intersection of the westerly line of Water Front street with the easterly line of Wyoming street; thence along the westerly line of Water Front street and said westerly line prolonged to its intersection with a curve of 1,326.6 feet radius described from the intersection of the southerly line of A street with the easterly line of Sixth avenue as a center; thence southerly along said curve to a point in the prolongation northerly of the westerly line of Water Front street (as the same is laid out south of Eleventh avenue); and thence along the westerly line of said Water Front street to the boundary line between the city and county of San Francisco and the county of San Mateo.

By act approved March 15, 1878, the state legislature ratified all of this water front line except that part extending from the east line of Taylor street to the easterly line of the Presidio reservation, which was excluded. The act of ratification was worded as follows:

> "So much of the line for a harbor embankment or seawall of the port of San Francisco, adopted on the twelfth day of September, eighteen hundred and seventy-seven, by the governor, the mayor of the city and county of San Francisco and the state harbor commissioners, and indicated on the maps filed in the office of said board of harbor commissioners and of the recorder of the city and county of San Francisco, as extends from the east line of Taylor street to the boundary line between the city and county of San Francisco and the county of San Mateo, is hereby ratified and confirmed, and shall be known as the 'water front line' of the city and county of San Francisco; and so much of said line of harbor embankment or seawall as extends from the east line of Taylor street to the eastern line of the Presidio reservation is hereby annulled and vacated."

State water front properties self-supporting.

The state properties along the water front of San Francisco are wholly self-supporting. With the exception of $100,000 appropriated by the legislature immediately after the earthquake and fire of 1906 to effect urgent repairs necessitated by that disaster, the state wharves have never cost the taxpayers of the State a cent. The expenses are borne by those who use the wharves, seawall lots, and other conveniences of the state properties. The regular, normal revenue of the Board of State Harbor Commissioners is derived from dockage charges for berthing privileges at the piers and wharves; tolls upon freight handled over the state property; wharfage charges for freight left unduly long upon the wharves; rentals of seawall lots, wharves, and quarters in the Union Depot and Ferry Building; switching charges by the Belt railroad; and various other lesser sources, such as minor privileges on East street, sale of old material, etc.

With the addition of seawall lots, as the seawall is increased in length, the revenue from rentals will be greatly increased, so that the time may come, even if large bond issues are needed for improvement, when, after the bonds are retired, the dockage and toll charges may be abolished and San Francisco be made a free port for shipping, for the prospective rentals alone will be more than sufficient to pay all the expenses of administration, maintenance and ordinary repair. With the construction of new piers, of best pattern, such as those now being built, the repair bill will amount to a relatively small sum annually.

The tables of financial statistics accompanying this report will show the relative values of the various sources of revenue, as well as the relative amounts of the various expenditures.

Increase of San Francisco's commerce.

The amount of freight handled over the state wharves during the fiscal year ended June 30, 1909, was, in round numbers, 6,325,000 tons; during the fiscal year ended June 30, 1910, it was 6,866,000, showing an increase of about 8½ per cent in one year.

This is likewise an increase of 3,136,000 tons, or 84 per cent, in fifteen years, the freight handled over the state wharves during the fiscal year of 1894-95 having amounted to 3,729,000 tons. It must be borne in mind, too, that the year 1909-10 was a normal one and growth in commerce was not stimulated by any unusual happenings or conditions, such as in 1906, when the great earthquake and fire in San Francisco caused vast quantities of building materials and supplies to flow into the city. The tonnage for 1909-10 even exceeded that of the abnormal year of 1906-07, when the tonnage handled over the state wharves was 6,803,000. A table showing the tonnages for the past sixteen years is included among the shipping statistics.

Lumber, mineral oil, wine and general merchandise are at present the principal articles of trade handled over the state wharves. On an average, in round numbers, 1,000,000 feet, board measure, of soft wood lumber, 12,000 feet of hard wood lumber, over 10,000 tons of general merchandise, 1,000 barrels of wine, 2,250 tons of oil, and 1,200 tons of coal are handled daily over the state wharves.

In the tables of shipping statistics will be found many data relating to the numbers and classes of vessels using the state wharves, their arrivals, tonnage and nationalities.

Revenue and expenses.

During the fiscal year ended June 30, 1910, the revenues from rental of state properties on the water front have been increased as a result of their increased valuation, as well as by the addition of new seawall lots, which now constitute income-producing real estate where the waters of the bay formerly ebbed and flowed. At the same time the expenses of the administration, the fixed charges, have been lessened in their

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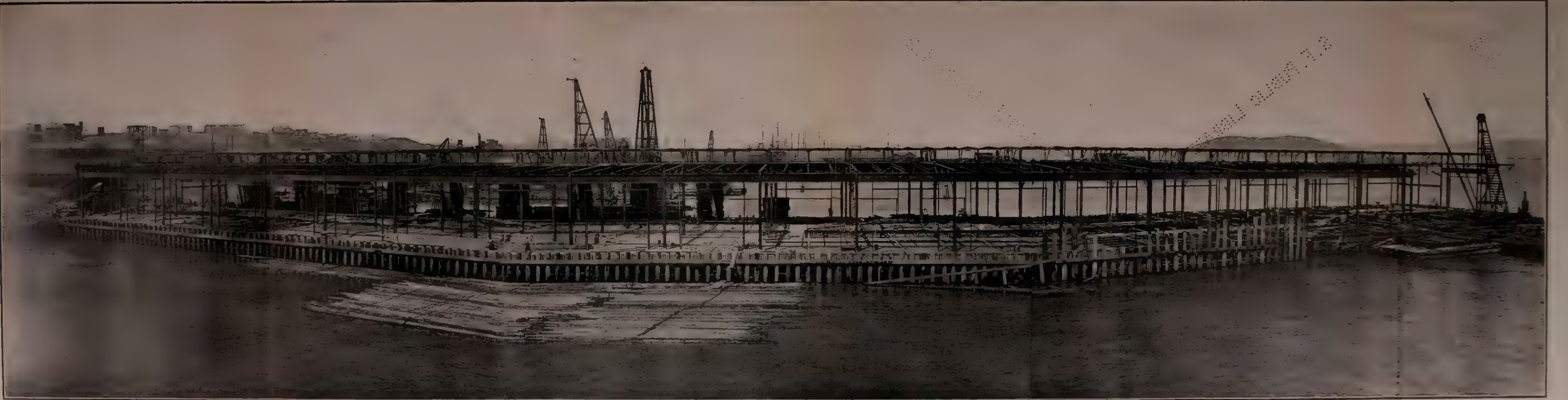


PIER 38 AND SHED IN COURSE OF ERECTION, SHOWING CHARACTER AND PROGRESS OF NEW CONSTRUCTION.

Note.—Photographic distortion gives the appearance of two bends in the pier. The pier is straight.

relation to the revenue. For the forty-seven years from 1863 to 1910, the average ratio of administration expenses to revenue was 21.38 per cent. For 1908-09 it was 20.47 per cent and for 1909-10 it was 18.25 per cent.

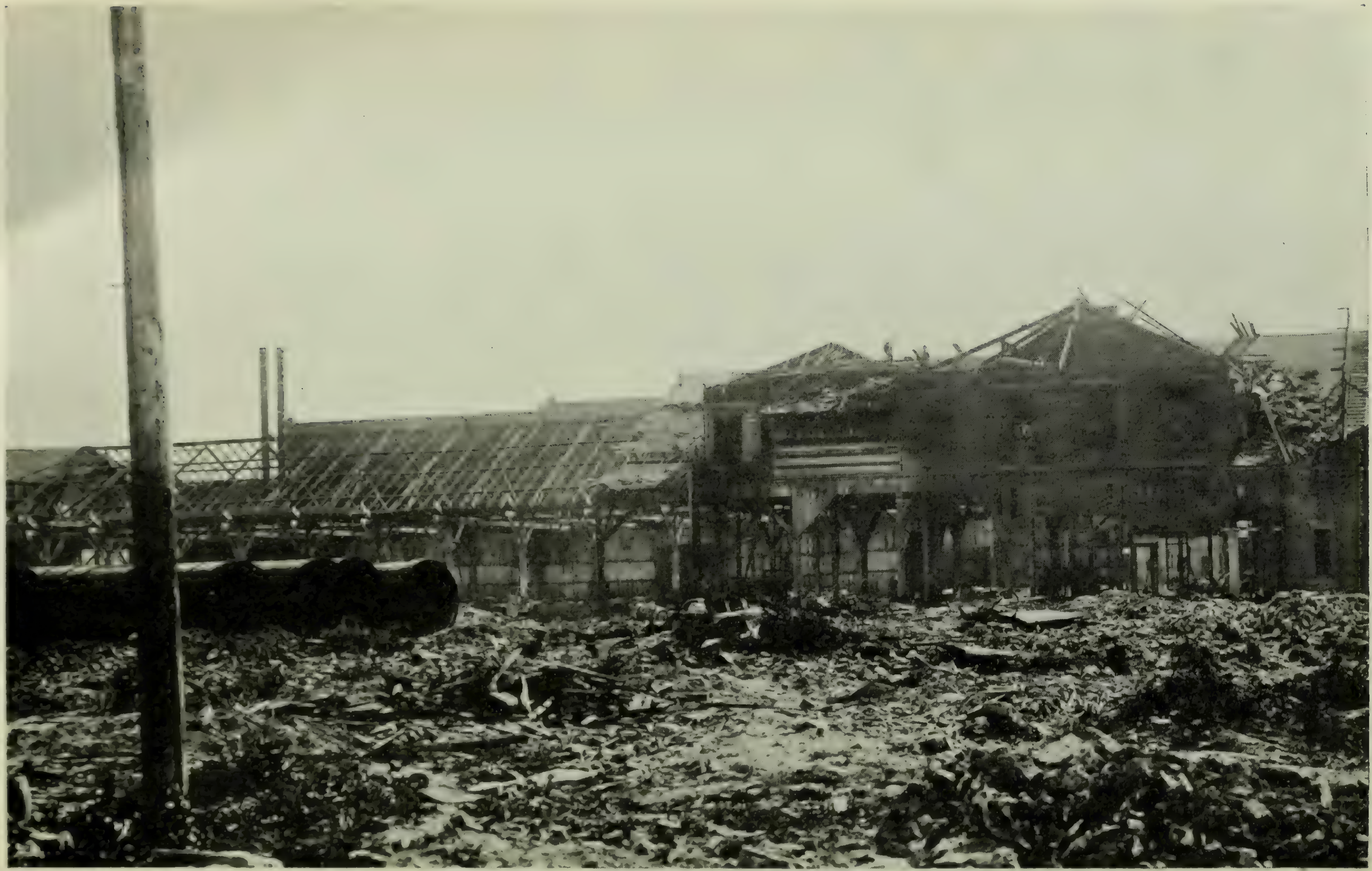
Early in 1910 a rearrangement was made of the rentals of tenants of the Union Depot and Ferry Building. Where formerly the rent schedule was more or less arbitrary and lacked uniformity, it is now based upon the character of the tenant's business and the number of square feet occupied. Tenants engaged in trade, such as candy, fruit and flower selling, are charged a flat rate of 75 cents per square foot. Other tenants, such as public officers, railroads, the express companies and the like, are charged a flat rate of 12½ cents per square foot on the ground floor of the building, 4 cents a square foot upstairs, and 2 cents a square foot on the slips. Where this method would have resulted in a lowering of the rental, the old rentals were left unchanged, but in a majority of cases the result was an increase, more nearly adequate than before to meet the charges for maintenance, interest on investment, and depreciation. The building now yields a revenue of $12,631.16, where a year before it yielded $10,602.00 a month, showing a gain of $2,029.16 a month.

Taking the fiscal year ended June 30, 1910, as an index, it is found that the normal annual gross revenue of the state water front properties in San Francisco on that date amounted to over a million dollars, derived as follows:

From dockage	$209,788	20
From tolls	343,307	39
From wharfage	7,184	73
From rentals	917,882	58
From Belt railroad	132,228	00
From minor privileges and concessions, electric lighting, etc.	27,558	29
	$1,637,949	19
Less rents paid in advance	595,839	40
Total	$1,042,109	79

At the same time the fixed charges were less than $400,000 per annum, as follows:

Administration, salaries, etc.	$29,618	65
Collection of revenue	63,290	30
Expense account, stationery, printing, etc.	43,822	83
Cleaning wharves, bulkheads, streets, etc.	34,989	56
State tugs	52,219	59
Belt railroad maintenance and operation	88,335	51
Electric lighting	32,548	34
Upkeep of Union Depot and Ferry Building	42,209	14
Legal expenses, furniture, etc.	968	49
Total	$388,002	41



Removing the old Mail dock. A few months before this picture was taken deep water existed where the solid land now appears in the

This shows a net annual income on June 30, 1910, of $654,107.38, available for construction, repair, dredging, sinking fund, and interest.

Some items of the fixed charges fluctuate more or less, being affected, for example, by the amount of work done by the Harbor Commission's own force instead of by contract. When it is found more economical, or otherwise expedient to effect construction or repair by the Harbor Commission's own force, the latter is increased and the salary rolls increased accordingly during the time the work is in progress. Again, under the heading of upkeep of the Union Depot and Ferry Building are included such charges as cost of rearrangement of offices, new modern plumbing, new ladies' waiting room, new lighting system for building, improvements on north and south wings, an upper landing for Slip No. 1, and other improvements of a permanent character, which are really more of the nature of new construction than of upkeep. Modernizing the Union Depot and Ferry Building, like modernizing the wharves, lessens the later cost of upkeep.

A further increase in cost of administration was due to the granting, by the legislature, of higher pay for wharfingers, collectors, and others, and the allowance of two weeks' leave, on pay, each year to all employees.

Eucalyptus piles.

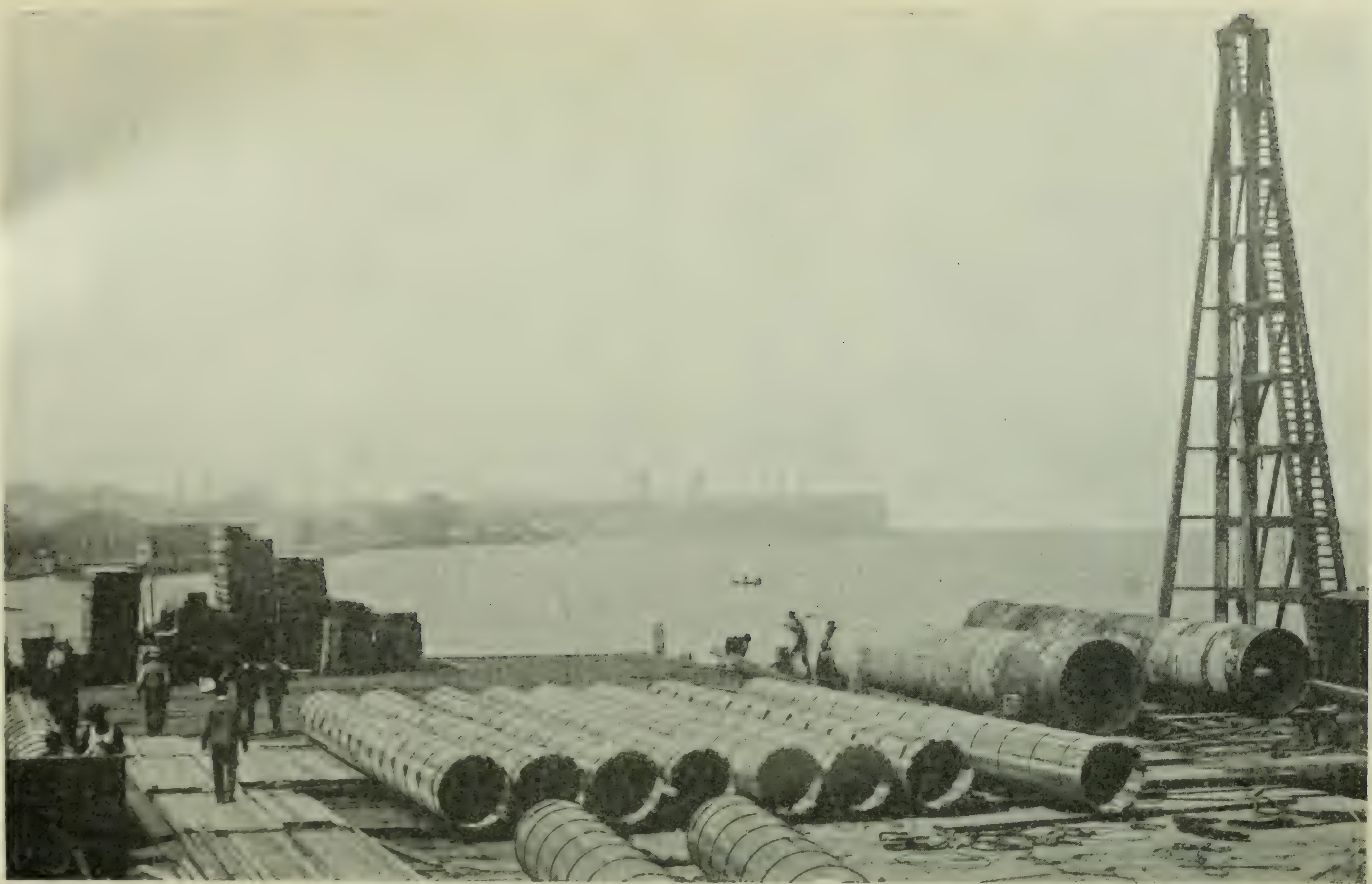
In the report of the Engineer particulars are given of experiments made under his direction with eucalyptus piles. In this connection, it may be stated here that in July, 1909, the Board, through its Secretary, wrote to the harbor officials of various seaports in New Zealand and Australia, requesting definite information as to their experience with varieties of eucalyptus timber as resistants to the attack of the teredo. There being several varieties of the tree, the experiences of those testing eucalyptus vary more or less, but as will be seen from the reports, the consensus of opinion is that even the variety that gave the best results is not satisfactory timber for piles exposed to the ravages of the teredo.

Mr. J. Marchbanks, Engineer of the Board of Harbor Commissioners of Wellington, New Zealand, says:

"Our experience is rather limited, owing to the practice of sheathing all piles with muntz-metal. Ironbark (*Eucalyptus paniculata*) does not resist the teredo successfully, and, as an instance, a wharf constructed of these piles was built at Opunaki, New Plymouth, and after three years the whole of the piles were totally destroyed. Jarrah (*Eucalyptus marginata*) resists the teredo much better than ironbark, and our only experience of these piles, unsheathed, was in this harbor, near the Patent Slip, where one was destroyed after being in position for thirty years."

Mr. H. Cullen, Engineer for Harbors and Rivers, Brisbane, Queensland, says:

"For wharf construction timber has been chiefly used, with, in several instances, cast iron piles, wrought iron bracing and wooden superstructures, but the ultimate



Making wooden cylinder forms for new concrete piles.

destruction of any underwater timber is so certain, and its protection so uncertain, that in the case of a large jetty built last year I used reinforced concrete, and the latter will probably be used generally in the future.

"Reverting to the actual timbers used, our practice has been to use gray ironbark (*Eucalyptus sideraphlois*) or spotted gum (*Eucalyptus maculata*), sheathed with 22-ounce muntz-metal for all main piles, and during recent years, owing to the occasional failure of the muntz-metal to maintain itself, I have also poisoned the timber well before sheathing, using a solution of arsenic first, and then a solution of copper, after which it is well coated with tar or bitumen. This treatment alone will protect timber from marine worms for a few years, say two to six as limits, and insures the interim of safety of the pile should the metallic sheathing fall or receive injury.

"For fender piles our practice is to use swamp mahogany or cypress pine. These timbers both possess a resin obnoxious to the teredo and limnoria, but its quality and quantity seem to vary for reasons not quite understood, probably the constituents of the soil, whether grown on low or well drained land, and whether cut with the sap up or down. However, apart from these variations, both timbers possess a certain resistance to attack, varying in length from three to twenty years. Many piles of these timbers are now in existence on the coast that have been in place for fifteen to twenty years, while I have known cases where there was a life of only three or four years. In New South Wales credit is given to a timber called turpentine (*Syncarpia laurifolia*) for insect resisting properties, and it is largely used there. Our experience in Queensland with the same timbers has not borne out the claims made for it in New South Wales. Possibly the worms in Queensland are more vigorous."

Mr. H. Walsh, Engineer-in-Chief of the Sydney Harbor Board Trust, Sydney, New South Wales, says:

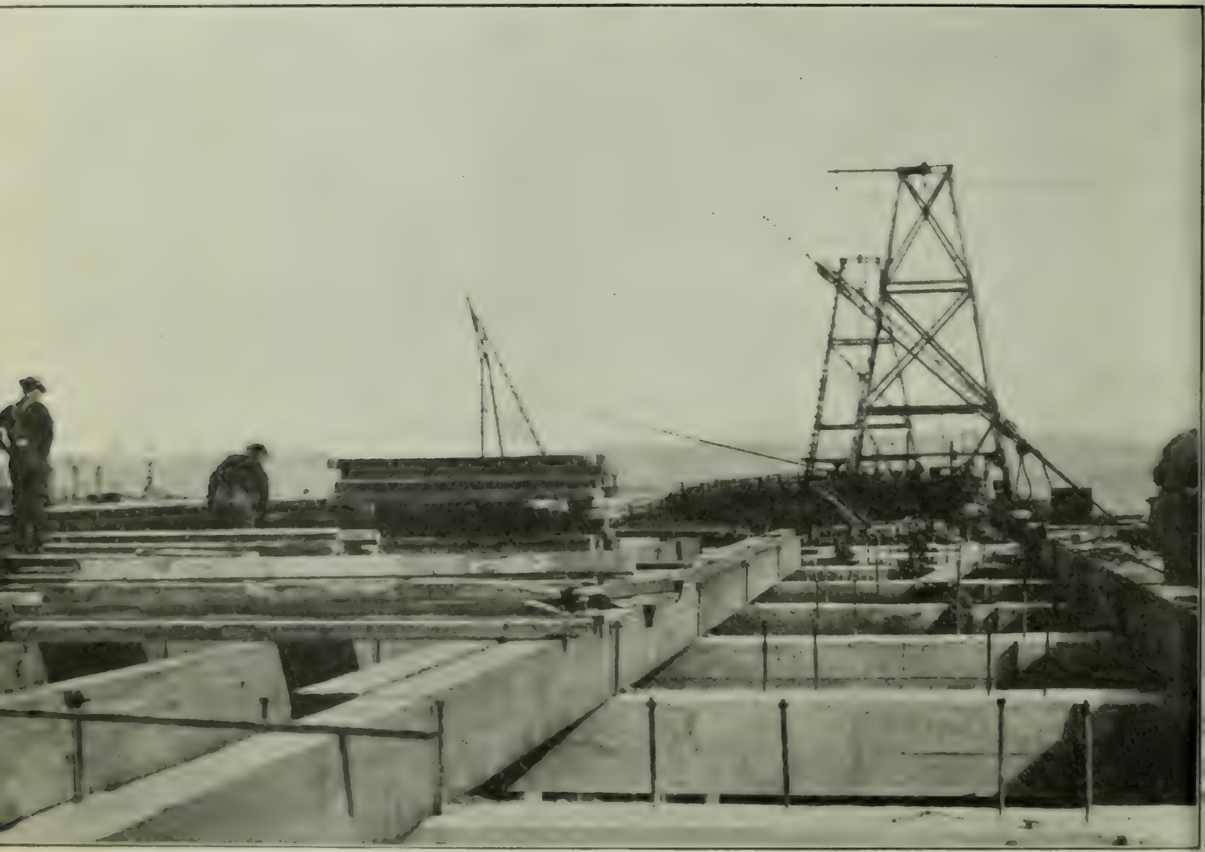
"I do not look upon any species of eucalyptus as immune from marine borers. The turpentine used so largely in this state is not a eucalypt."

Reports of similar tenor to the foregoing were received from Messrs. Huckson & Hutchinson, architects and engineers for the Marine Board of Hobart, Tasmania, who says that blue gum (*Eucalyptus globulus*) and stringy bark (*Eucalyptus obliqua*) are especially suitable for piles, and that ironbark also makes good piles which last quite as well as blue gum, but is restricted to a few localities and is too scarce to be of any use; from Mr. W. H. Hamer, Engineer to the Harbor Board of Auckland, New Zealand, who says that none of the several kinds of Australian eucalyptus experimented with has withstood the ravages of the worms without the expensive copper sheathing; and from Mr. Halliday, Engineer for the Melbourne Harbor Trust, Victoria, who expresses a preference for the New South Wales turpentine (*Syncarpia laurifolia*).

Policy of the Board.

It has been the policy of the Board under your administration—

1. To pave all of the streets under its jurisdiction with basalt in a thorough manner, reducing to a minimum the traction incident to the most exacting team traffic known;
2. To keep all such pavements clean all of the time;
3. To extend the Belt railroad to all sections of East street protected



Concreted steel beams of pier 34.

by seawall, and to maintain said Belt railroad with construction, equipment and service equal to the best railroad yards in this country;

4. To maintain the Ferry building in a state of cleanliness and perfection of appointments befitting its importance as the main gateway of the city;

5. To extend the seawall between the Ferry building and Channel street as rapidly as the temporary withdrawal of old wooden wharves and the consequent inconvenience to shipping would permit;

6. To create East street and seawall lots behind the new seawall, coincident with seawall construction;

7. To abandon the inadequate loose rock method and substitute therefor a reinforced concrete style of seawall construction;

8. To replace failing wooden bulkhead wharves with reinforced concrete protected steel girder construction;

9. To displace worn-out docks on wood pile foundations with new steel-frame piers, all steel protected by reinforced concrete, making the roofs, walls and floors monolithic, and resting on foundations of reinforced concrete cylinder piers, whose integrity of construction has been absolutely assured;

10. To allow no departure from this style of dock construction except to the proposed lessees of piers 34 and 54, whose moneys were advanced to the State for 15-year leases under statutory provision, which said piers are built upon permanent reinforced concrete foundations capable of supporting permanent superstructures when reverting to the State at the end of their leases;

11. To establish irrevocably a type of construction whose permanency shall secure a reduction of repair cost to a minimum, positive immunity from loss by fire, and absolute compliance with the most exacting quarantine regulations;

12. To lease the realty of the State, known as seawall lots, for terms not exceeding twenty-five years, as provided by law, at 4 per cent on present day expert appraised valuations, with increasing percentages every five years to compensate for increased valuations;

13. To connect all permanent wharves and docks by rail with the Belt railroad;

14. To place all present new and permanent construction so as to bring together rail and vessel at points on the water front of the bay of San Francisco nearest to the largest level areas of the city, thus insuring immediately to the greatest degree economies of commerce;

15. To maintain old and temporary wharves and docks so as to make them serve, with the aid of of the Belt railroad wherever practicable, the shipping interests necessarily dependent upon them until such time as the voters of the State shall permit the Board of State Harbor Commissioners to anticipate the revenues of the port by the issuance of 75-year

bonds for the purpose of securing the necessary funds with which to extend the new and permanent type of construction to the older parts of the water front; and, finally,

16. To increase and equalize the revenues from all sources other than charges for tolls, dockage, and wharfage so as to afford the greatest practicable relief to shipping, which has heretofore borne an undue share of the burdens of the port.

New Pier 34.

General situation.

In conclusion, it can not be too strongly stated that the bay of San Francisco possesses in eminent degree all of the commercial and natural advantages that go to make an ideal great seaport, but the water front urgently calls for more and better docking facilities, to meet the demands of both present and future commerce. Better facilities will bring more commerce and more revenue, while the growth of commerce will bring more business and trade to the city and State.

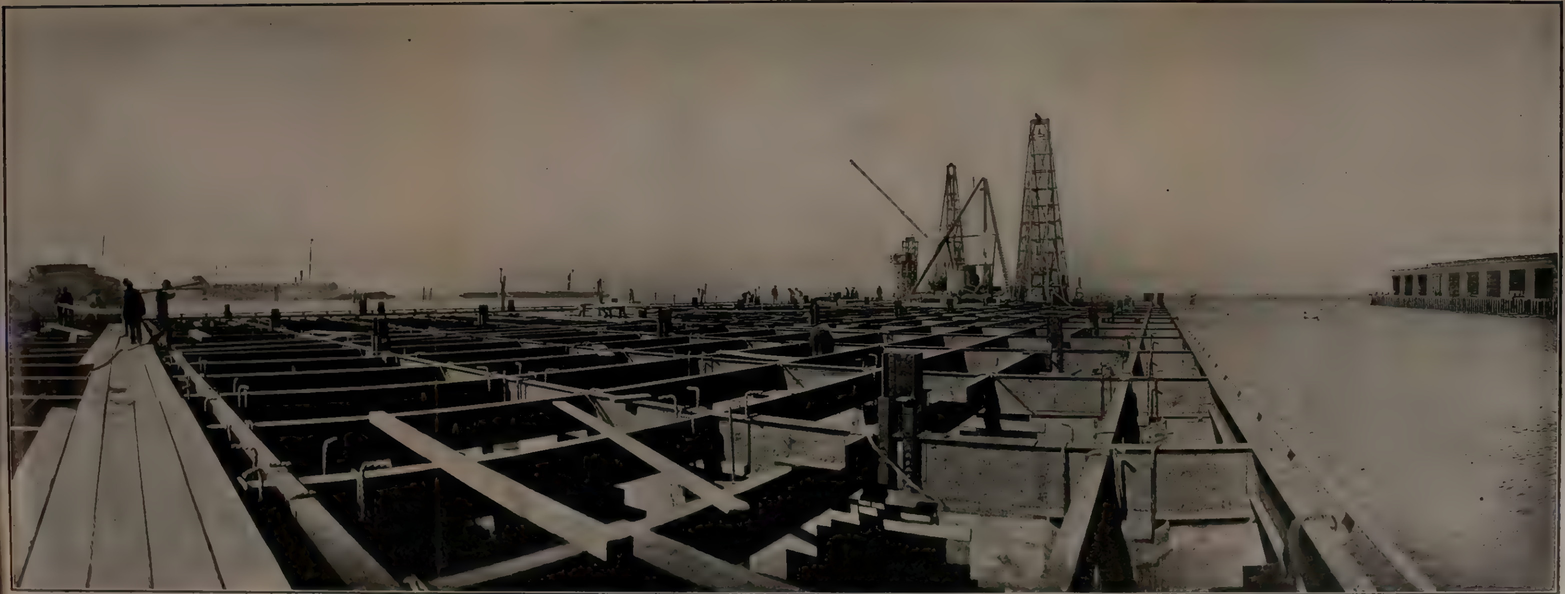
"It is an invariable rule that harbor development on modern lines is immediately followed by new shipping and increased trade."

PART II.

REPORT OF ASSISTANT STATE ENGINEER

Interior of steel shed on new pier No. 36.

Interior of steel shed on new pier No. 36.



PIER 38 IN COURSE OF CONSTRUCTION, SHOWING STEEL FLOOR BEAMS AND GIRDERS.

REPORT OF THE ASSISTANT STATE ENGINEER.

San Francisco, California, September 8, 1910.

To the Honorable, The Board of State Harbor Commissioners.

Gentlemen: In my report immediately preceding this one, the existing conditions on the water front were described. This report deals principally with what has been accomplished in the past two years in the way of new construction, and will include some observations regarding what my experience tells me should be done in future to improve the facilities for handling the traffic. The State Belt Railroad has not been touched upon, as this will be discussed in a separate report by its Superintendent. A subdivision regarding a test of eucalyptus trees for piling has been added.

Dredging.

All along the water front there is a constant deposition of material, which makes it necessary to do some dredging in order to maintain a sufficient depth of water in the berths. The present dredging equipment is sufficient to do this under ordinary circumstances. During the past two years, however, the large amount of dredging necessary to prepare for new seawalls and to provide sufficient water alongside of new piers has caused this work to get into arrears somewhat.

When an old pier is removed to make way for new work it becomes necessary to remove all the piles and stumps of piles which remain of the old work, so that nothing will remain which might be a menace to navigation.

The site of an old pier which has been standing a long time and been repaired again and again becomes thickly studded with old stumps of piles, and their removal is a slow operation. Also, deep and thorough dredging is necessary for new seawalls. In preparing for sections 8, 9, 10, and 11 of the seawall our dredgers have pulled over 10,000 old piles stumps and have moved over 500,000 cubic yards of mud. There still remains to be done in this connection the dredging on the sites of piers No. 2, No. 20, No. 26, and No. 28, which have been removed. This work will be completed shortly and conditions will again become normal unless new seawall construction is commenced.

Tests of eucalyptus for piling.

A great many claims have been put forward that certain varieties of eucalyptus trees would resist the attacks of the teredo and the limnoria.

This claim was made for the blue gum variety (*Eucalyptus globulus*) which is quite plentiful in California and is available locally in suitable sizes for piling. The Board decided to make a test of these trees. Accordingly, about 1,200 were purchased and put into structures where the teredo was known to be active. These trees came from two sources, one in the city of Berkeley, in Alameda county, where they were planted in 1872 and were 37 years of age at the time they were cut. Two hundred and fifty piles were obtained from this source. The balance came from the Parkside subdivision of San Francisco. These trees were planted in the eighties and were from 24 to 28 years of age. All of the piles were of the same variety, *i. e., Eucalyptus globulus.* These piles were all driven early in 1909, and have not been in the water long enough at present to give any idea as to their ability to resist the marine insects. A large number were used in the construction of one of the ferry slips at the foot of Market street. It was thought that the wood, being tough and strong, would resist the blows and wear of ferryboats better than fir piles. The result has been a disappointment. The eucalyptus does not withstand the wear any better than fir, and does not afford enough rigidity for ferry slip construction on account of its rapid taper and the ease with which the piles are bent.

East street.

The paving on the newly created thoroughfare beginning at Channel street, has been begun and up to date 1,200 feet has been completed. All of the city streets which have been extended by the construction of the seawall, and the filling in behind it, which are adjacent to property under the jurisdiction of the Board, have been brought up to grade and paved.

In doing this work special 8-inch by 20-inch curbing has been used entirely, the catch-basins and sewers have been of the best type. The paving is of basalt blocks laid on a sand cushion. This paving gives easy access to piers No. 34, No. 36, No. 38, No. 40, No. 42, and No. 44.

Seawall.

During the past two years the construction of new seawall has been prosecuted as rapidly as the conditions would permit. At the time the last report was written 11,600 feet (including 800 feet of breakwater at Fisherman Wharf), existed as was described in the previous report. This does not include 3,000 feet of seawall, which was constructed by the Santa Fe Railway Company, and for which a lease of the territory created was given, at a nominal rental, for a period of fifty years. This latter seawall extends from Channel street southerly to El Dorado street, and incloses what is known as China Basin. According to the terms of this lease, whenever the Board of State Harbor

Commissioners shall erect a continuous seawall from its present end near Mission street to the intersection of the easterly extended north line of Channel street with the water front line, there reverts to the State as a right of way and thoroughfare a strip 100 feet wide and extending the full length of the property, together with a right of way 70 feet in width on and along the north and south boundaries of the property to provide a convenient means of ingress and egress to and from the piers which may be built abutting on this portion of the seawall.

Since the writing of the last report the following sections of seawall have been constructed or started and will be completed by January 1st:

Section 8: 300 feet long, extending from the foot of Mission street to a point between Mission and Howard streets. Work on this section was started December 6, 1909, and was completed March 10, 1910.

Section 9: 1,000 feet in length, extending from the foot of Harrison street to a point between Bryant and Brannan streets. Work on this section was started March 29, 1910, and is not yet completed.

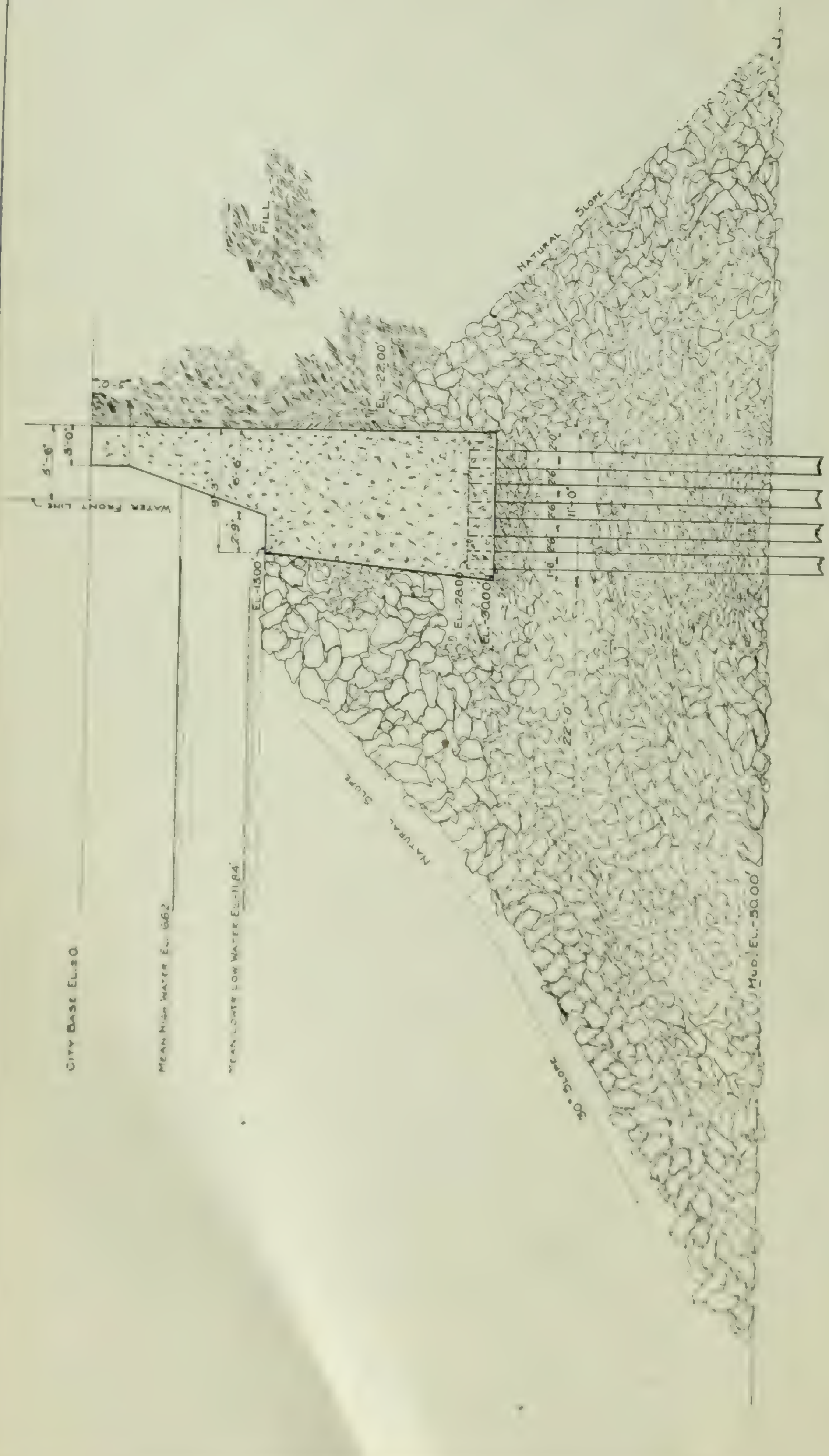
Section 10: 485 feet in length, extending from the southerly end of section 9, between Bryant and Brannan streets, to the northerly end of section 11 at the foot of Main street. Work on this section was started August 29th, and is not yet completed.

Section 11: 600 feet in length, extending from the southerly end of section 10 at the foot of Main street to the northerly end of section 12, between Brannan and Townsend streets. Work on this section was started February 22, 1909, and completed October 11, 1909.

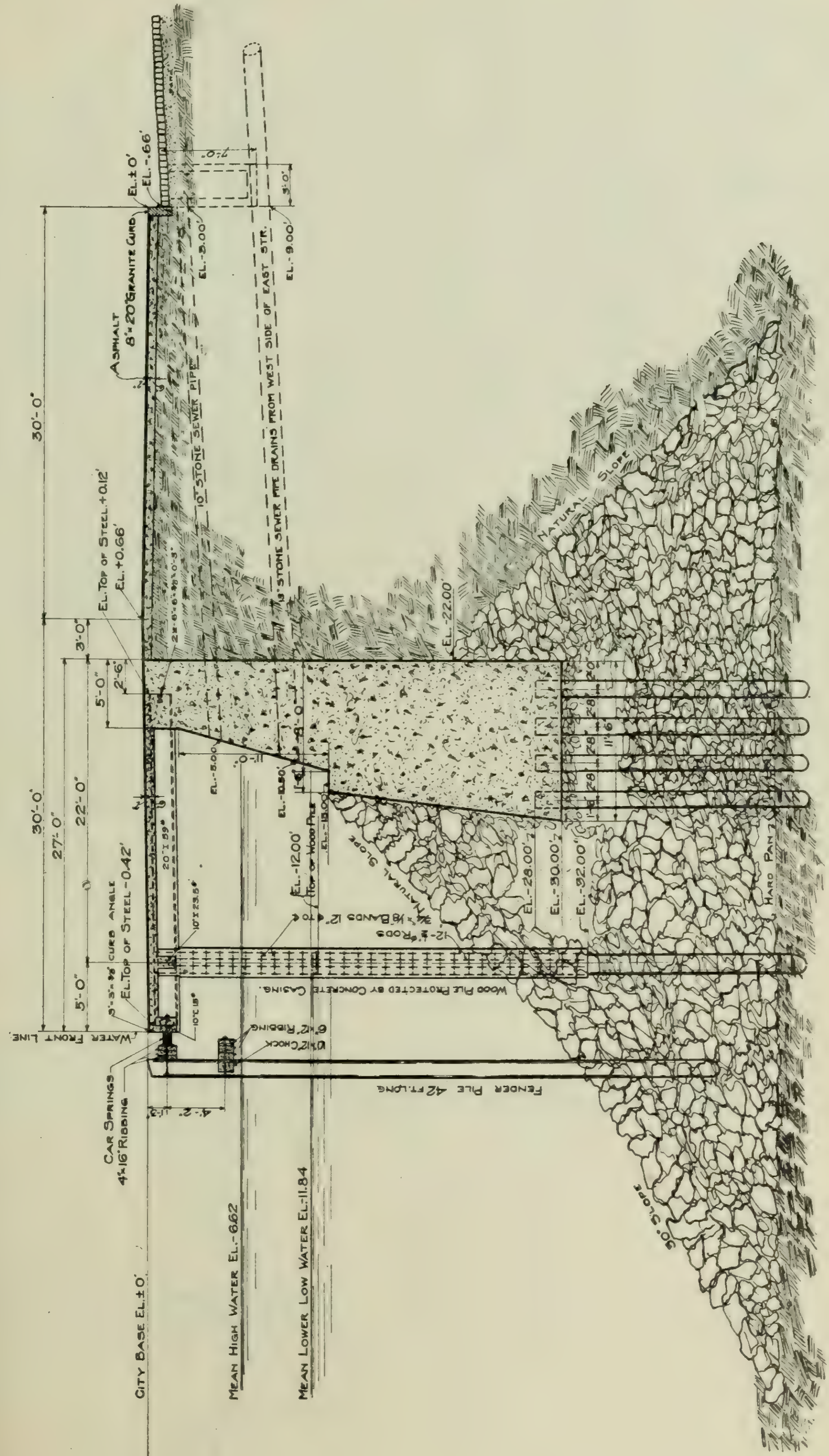
When sections 9 and 10 are completed, which will be within the next four months, the seawall will be continuous from the foot of Harrison street to the intersection of the easterly extended north line of Channel street with the water front line, and there will remain a gap of 1,750 feet, between Harrison and Mission streets, to be built to regain the 100-foot thoroughfare along China Basin.

The design adopted for sections 8, 9, and 10 of the seawall is a departure from that of all previous sections. It consists of a concrete wall, supported on piles, and having a rock embankment below and on both sides of it. The base of the concrete wall is 30 feet below city datum. The space from this point down to soil, which has sufficient carrying capacity to support it, is filled with rock, and the rock is carried up to a point 13 feet below datum on the outside of the wall and 22 feet below datum on the inside of the wall. The concrete wall being supported on piles will not settle, and although there will probably be a slight settlement in the rock embankment, this will in no way affect the usefulness of the wall.

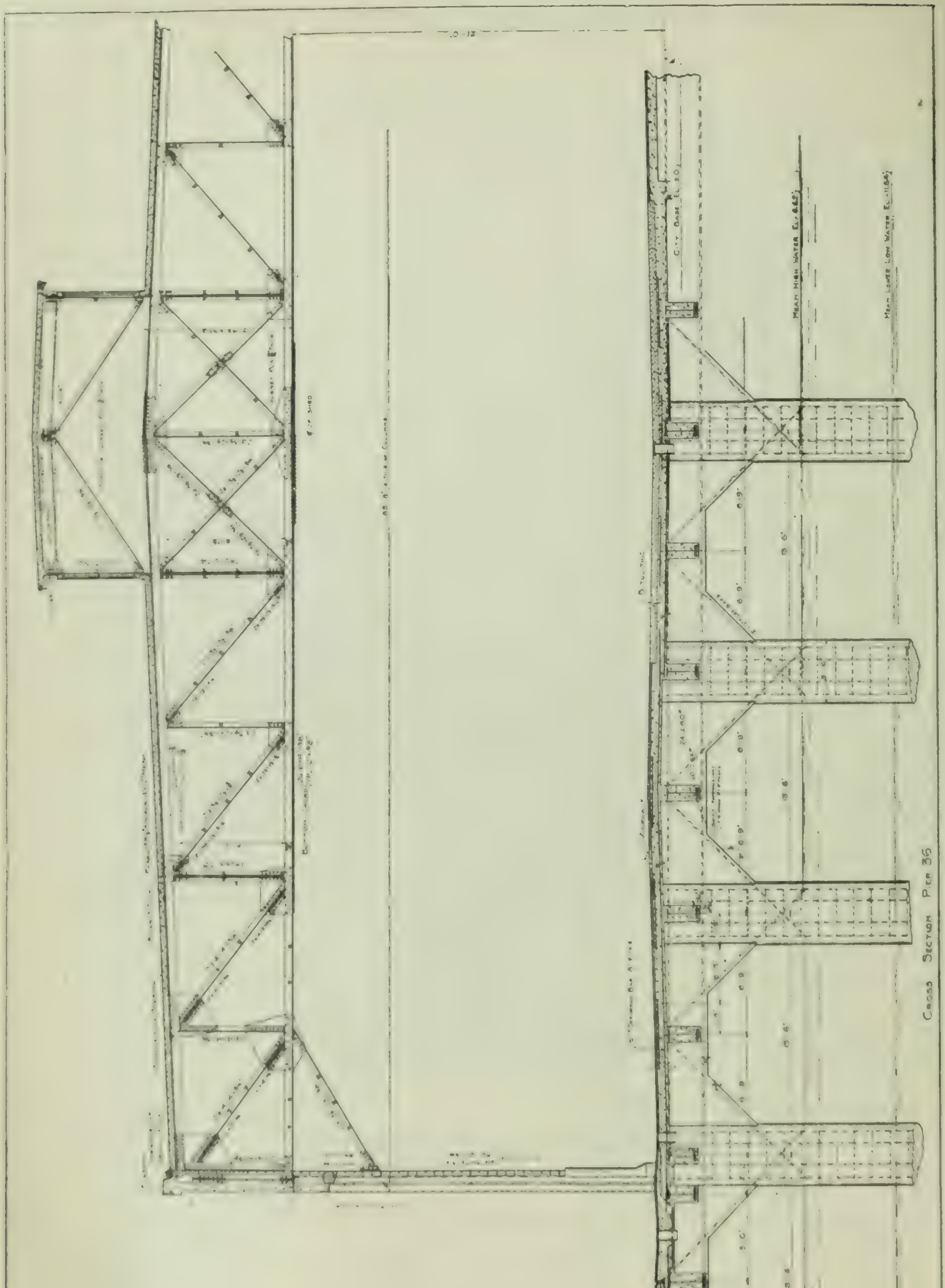
Section 8 is designed to support buildings for additional ferry facilities and to afford a base for additional slips. For this reason no bulkhead wharf was placed upon it. A cross-section of this wall is shown.

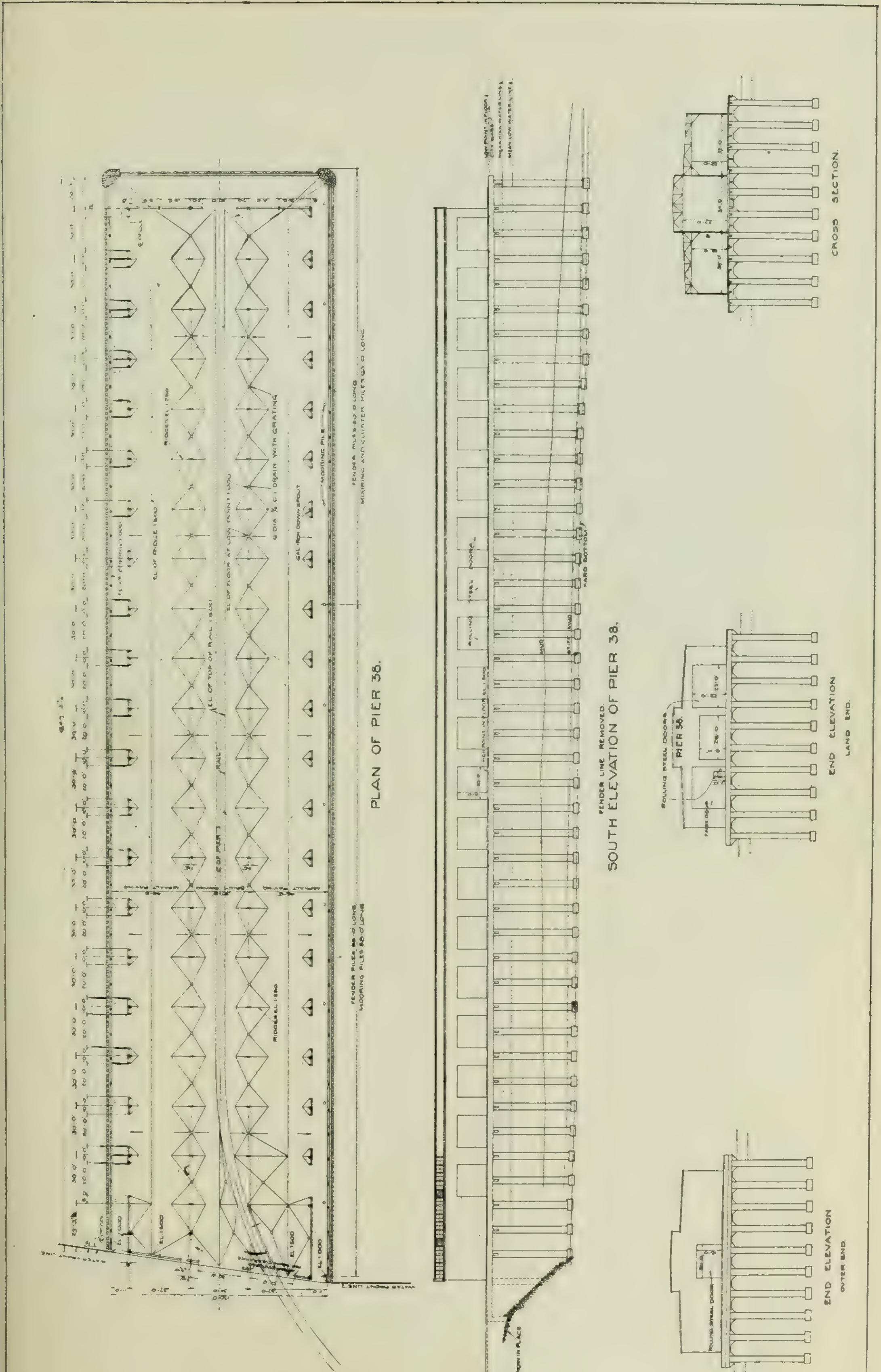


CROSS SECTION OF SEAWALL SECTION 8.



Cross Section of Seawall Section 10


Mean High Water El. 6.62'
Mean Lower Low Water El. -11.84'
Cross Section Pier 36


PLAN OF PIER 38.
FENDER PILES 80'0 LONG
MOORING AND CLUSTER PILES 85'0 LONG
MOORING PILE
GAL. IRON DOWN SPOUT
RIDGES EL. 12.50
EL. OF RIDGE 18.00
EL. OF TOP OF RAIL 15.00
EL. OF FLOOR AT LOW POINT 10.00
RAIL
EL. 15.00
EL. 10.00
SOUTH ELEVATION OF PIER 38.
FENDER LINE REMOVED
ROLLING STEEL DOORS
HIGH POINT IN FLOOR EL. 18.00
HARD BOTTOM
STIFF MUD
MUD
ROCK FILL NOW IN PLACE
CROSS SECTION.
END ELEVATION
LAND END.
ROLLING STEEL DOORS
PIER 38
END ELEVATION
OUTER END.
ROLLING STEEL DOORS

Sections 9 and 10 are designed to form a base for piers and have bulkhead wharves upon them. The designs for these two sections are identical, and a sketch of section 10 is shown.

Bulkhead wharves.

The recent bulkhead wharf construction has been entirely of concrete and steel. There has been completed during the past two years 2,710 lineal feet of this style of wharf and 1,485 is now being built. All of this work, with the exception of a piece 425 feet long just north of the Ferry building, lies south of Harrison street, and when completed will form a continuous stretch of bulkhead wharf over 3,000 feet in length.

The 425 feet of wharf to the north starts at the Ferry building and extends to the north side of Washington-street pier. It forms an approach to this pier, and on each side of the entrance office buildings have been constructed for the use of the concerns docking vessels there. These buildings are two stories in height. The lower floors provide waiting rooms for passengers, and are equipped with modern lavatories for men and women. The upper floors provide offices for the steamboat companies.

These buildings are of reinforced concrete throughout and are sanitary and fireproof. Whenever bulkheads are to be built to form foundations for permanent buildings of this type, I shall recommend the adoption of concrete.

Concrete bulkhead wharves built in connection with a solid concrete wall, as shown in cross-section on the sketches herewith, have two very decided advantages over wooden wharves. They are absolutely fireproof and they afford no opportunity for vermin to exist.

Piers.

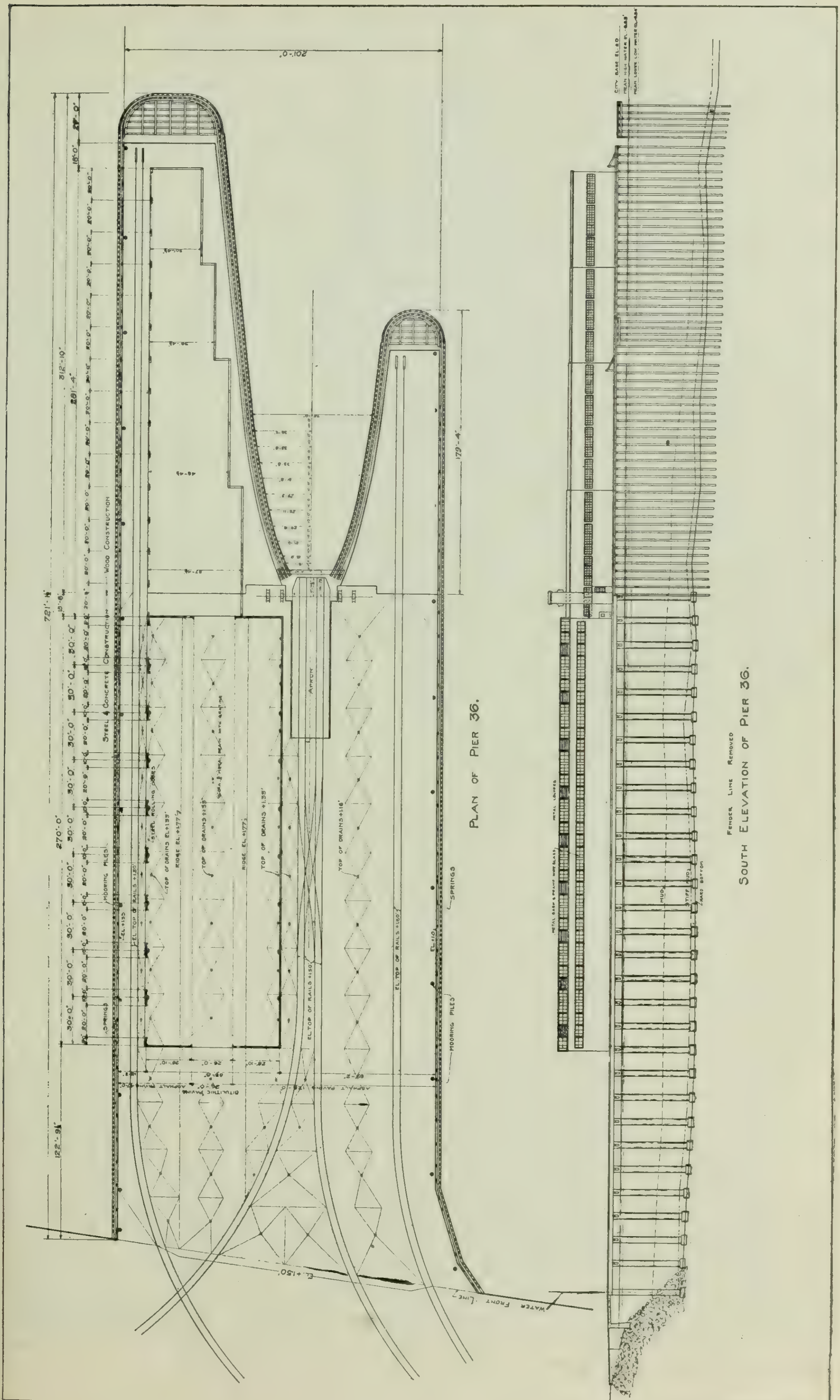
The following piers have been completed:

Pier 40.
Pier 38.
Pier 36.
Pier 34.

Pier No. 54 is in course of construction.

The type of construction adopted for piers 38 and 40 was described in the last report. Sketches showing the floor plans and some details of construction are reproduced herewith.

Pier No. 36 is provided with a ferry slip and apron for the handling of freight cars. The construction of this pier is similar to that of piers No. 38 and No. 40 out to the nose of the ferry slip; from that point on it is of wooden construction. It was built in this way to afford resiliency to absorb the shocks of incoming car floats and ferryboats. On one side of this pier is a shed, and between the shed and the edge of the pier is [illegible] railroad track. The other side of the pier is left open and is also provided with a track.



Plan of Pier 36.

South Elevation of Pier 36.

Pier No. 34 is in its general arrangement and dimensions the same as piers No. 38 and No. 40. It differs in its construction. The pier is supported on piles protected by a coating of reinforced concrete applied according to Mr. Howard Holmes' patent. The floor is supported on steel girders which are protected by concrete. The stringers, floor, and shed are of wood.

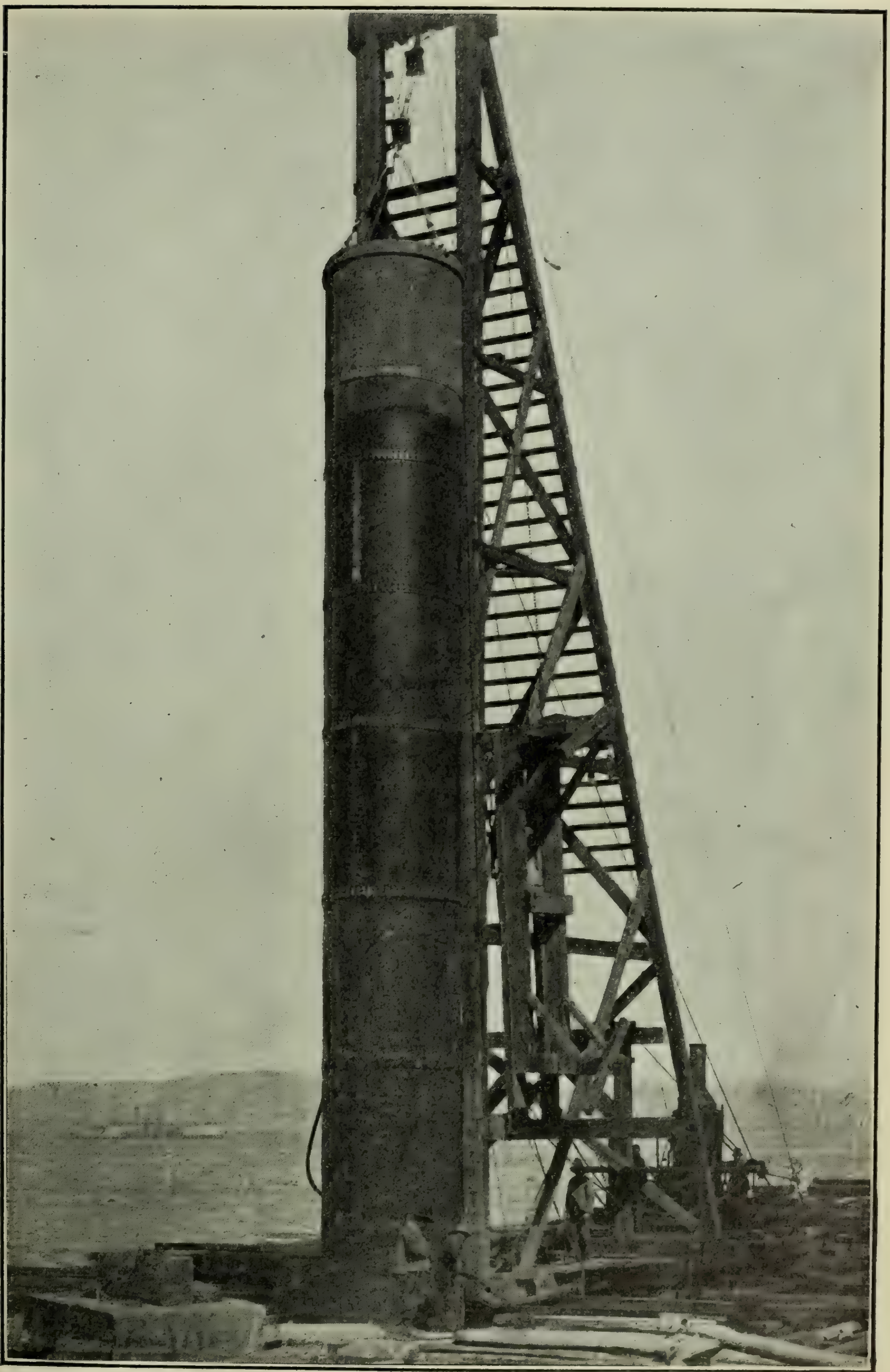
Pier No. 54 is entirely of reinforced concrete except the shed which is of wood. This pier will have a larger floor area than any other pier in the harbor. It will be provided on one side with a depressed track.

Piers of the type of No. 38 and No. 40 are fireproof, no wood having been used in their construction. It is impossible for rats to get in or out of them when the doors are closed.

The character of the carriers employed in the transportation on the water at the present time is entirely different from those of a few years ago. Then a great deal of carrying was done in sailing vessels of comparatively small tonnage.

These vessels did not have any set schedules for sailing and discharged or received their cargoes in a leisurely way. This sort of procedure did not require piers which would accommodate a huge amount of freight, as it could be hauled away almost as fast as it was discharged. At present, however, the carriers are principally large steam vessels, carrying from 6 to 12 thousand tons of cargo. They run on a fixed schedule and are so expensive to operate that they must lie at the wharf the least possible length of time. Consequently every possible means of hastening the discharge and taking on of cargo is employed. The result is that an enormous amount of freight is piled upon the piers, and they become congested.

The average width of the piers in this harbor to-day is about 100 feet. The largest are 140 feet in width and many are only 80 feet. The latter are what is left of the earlier construction when the huge modern steam vessels were comparative strangers here. The two piers leased to the Pacific Mail Company, No. 42 and No. 44, are 140 feet in width and have a depressed track on one side. These piers were built especially to accommodate the vessels of the Pacific Mail Company, which are the largest coming here at present. Experience shows that these, when one large steamer discharges her cargo on them, are badly congested and it is impossible to utilize the berth on the opposite side of the dock. Therefore, although by building narrow piers more berthing space is created than by building wider ones, practically only one half of this space is available on account of the congestion on the floor. The location of a track on one side of a pier is also a detriment in some respects. In case a train of cars occupy the track it is manifestly impossible to handle a vessel on that side of the pier unless the bulk of the cargo is to



Steel cylinder for concrete pillars of new piers.

go directly into the cars and other cargo can be left in the ship until the cars are removed.

The piers which are contemplated along sections 9 and 10 of the seawall are 209 feet in width, having depressed tracks down their center. This will allow of sheds, 80 feet in width if two tracks are provided and 86 feet if one track is provided, on each side of the track and allowing 10 feet between the edge of the pier and the shed.

This will afford floor space sufficient to accommodate a large vessel on each side of the dock. The tracks will be in a position that will not interfere with the loading and discharging and will afford good facilities for the handling of general cargoes, which must be sorted before going into cars. This arrangement would not permit of putting cargo directly into the cars from the ship's tackle, but a system of traveling cranes could be arranged above the roofs of the sheds, which would transfer heavy pieces of freight directly into the cars or on wagons.

I believe that the above arrangement of piers will afford the best facilities for handling general cargo and will be the most economical arrangement in respect to berthing space. However, I believe that there should be provided some places on the water front where tracks are placed directly alongside the piers so that vessels can place their cargo directly into cars or vice versa when the character of the cargo is such that this is feasible.

The space between the piers also must be widened to accommodate the modern type of vessel. Vessels of this type must be handled with rapidity, consequently, while the cargo is being discharged and loaded, fuel must be taken on. This is done by having alongside the vessel coal or oil barges.

The breadth of large vessels is in the neighborhood of 65 feet, and they usually breast off from the pier about 6 feet and occupy a space of from 70 to 80 feet. Barges take up, say, from 30 to 40 feet each. If two vessels are in a slip taking on fuel simultaneously, the vessels and barges will occupy a space approximately 220 feet in width. Therefore, the space in the slip to accommodate all of this traffic should be 250 feet in width. If the space is made 220 feet, there is ample room for two large vessels to dock at the same time, and one at a time they can take on fuel or cargo from barges.

The space allowed between the piers planned for the near future is 220 feet.

Respectfully submitted.

RALPH BARKER,
Assistant State Engineer.

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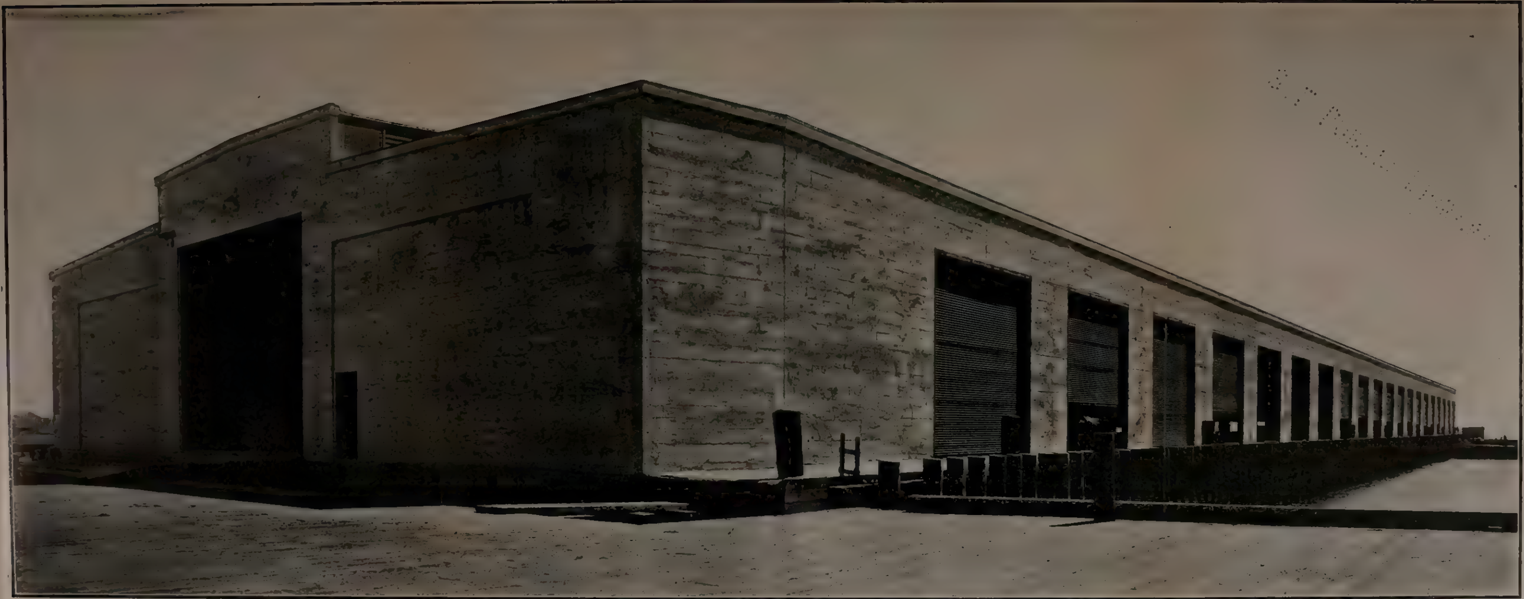


PIER 40, SHOWING TYPE OF REINFORCED CONCRETE SHED.

PART III.

REPORT OF THE ATTORNEY.

REPORT OF THE ATTORNEY.

San Francisco, California, July 1, 1910.

To the Honorable, the Board of State Harbor Commissioners,
Ferry Building, San Francisco, California.

Gentlemen: I beg leave to submit herewith my report as Attorney for the Board of State Harbor Commissioners for the two years beginning July 1, 1908, and ending June 30, 1910.

As has been my custom heretofore, I have endeavored to attend as many regular and special meetings of the Board as possible in order to keep thoroughly in touch with every detail of the business transacted on the water front, and at the same time to facilitate the consummation of all matters requiring my attention, not only on account of the Board itself, but on account of those dealing with it. Many opinions have been rendered verbally, at the same time opinions on the more important subjects have been given in writing. As is obvious, taking into consideration the great scope of the business transacted, the requests for opinions were many and the subjects extremely varied. As has always been my practice, I have endeavored, with some degree of success, to keep the Board out of litigation. During the past two years the following matters in which the Board was interested have taken up my attention in court:

Southern Pacific vs. *All Persons,* No. 8408, Superior Court of the City and County of San Francisco. This was an action to quiet title under the McEnerny act. Under the advice of the Attorney General the answer prepared by me and filed was withdrawn upon the ground that no legal authority exists for any one to appear for the Board or for the State.

People of the State of California ex rel. Board of State Harbor Commissioners vs. *Gray Bros. Crushed Rock Company and Aetna Indemnity Company,* Superior Court of the City and County of San Francisco, No. 29731. This action was brought to recover of Gray Bros. Crushed Rock Company, and the surety on its bond, approximately $30,000, by reason of the fact that said contractor failed to perform a contract for the extension of seawall, thus necessitating the reletting of another contract at an increased cost. This matter is still pending.

M. R. Roberts, vs. *Henry J. Crocker et al.,* No. 29363; *M. R. Roberts* vs. *Walter E. Dennison et al.,* No. 29690; *M. R. Roberts* vs. *W. V.*

Stafford, W. H. Davis and *Thomas A. Hender,* No. 30928, all in the Superior Court of the City and County of San Francisco. These three actions may be grouped together. Damages against the defendant are asked in each case by plaintiff Roberts for $25,000. The complaint is based upon the alleged willful and fraudulent sale by defendants of certain portable hoppers theretofore operated by said plaintiff. These hoppers were sold in pursuance of provisions of law after the same had been declared by the Board obstructions.

Three actions—*People ex rel. Board of State Harbor Commissioners* vs. *Southern Pacific Company; People ex rel. Board of State Harbor Commissioners* vs. *City Savings Bank of Santa Cruz,* involving strips of land on the north side of Channel street, between Fifth and Sixth, are still pending and untried.

Respectfully submitted.

W. H. DAVIS,
Attorney for the Board.

PART IV.

REPORT OF THE EXPERT ACCOUNTANT.

REPORT OF THE EXPERT ACCOUNTANT.

San Francisco, California, September 6, 1910.

To the Honorable Board of State Harbor Commissioners,
San Francisco, California.

Gentlemen: The examination by me of the books and accounts of the department for the quarter ending June 30, 1910, completed my work for the two fiscal years ending on that date, and the accompanying statements give the condition of each account.

CASH ACCOUNT.

On the morning of July 1, 1910, I balanced the cash and bank accounts, finding as follows:

Cash receipts	$136,753 51
Pay rolls, amounts not paid	26 75
	$136,780 26
Disbursements	14 13
	$136,766 13

Accounted for as under—

Crocker National Bank deposits, balance	$134,728 03
Coin in safe	53 52
Pay rolls, part payment	1,635 00
Wells, Fargo & Co., for collection	299 68
Petty cash	49 90
	$136,766 13

SAN FRANCISCO HARBOR IMPROVEMENT FUND.

Cr.

June 30, 1908. Balance in the fund	$62,688 91
June 30, 1910. Total remittances to State Treasurer, 24 months	2,998,293 79
Total accrued interest on seawall bonds sold credited to this account	2,375 63
Advertising, seawall bonds; returned by State	22,937 45
Drafts returned and canceled	51 40
	$3,086,347 18

Dr.

June 30, 1910. Total sight drafts drawn on State Treasurer, 2 years, to date	$2,220,058 51
Deferred payment drafts paid	125,654 16
Monthly transfers to the San Francisco Depot Sinking Fund of $4,631, 24 months	111,114 00

Monthly transfers to San Francisco Seawall Sinking Fund, 24 months	$285,306 71	
Paid the State on loan of $250,000 for account of principal	100,000 00	
Total interest paid on balance of State loan, at 4%	14,000 00	
		$2,856,163 38
Balance on hand, June 30, 1910		$230,183 80
Add old difference		04
		$230,183 84

I am favored by A. B. Nye, State Controller, with a statement of the balance of this account on his books.

State Controller's balance, June 30, 1910	$83,657 69
Add June receipts remitted in July	149,621 75
	$233,279 44
Less drafts not presented	3,095 60
	$230,183 84

Only the monthly transfers of interest and installments of principal appearing on the books of this department, I am indebted to State Treasurer W. R. Williams for statements of the condition of the two following funds, of which I give hereunder a synopsis:

SAN FRANCISCO DEPOT SINKING FUND.

Being provision for the payment of $600,000 bonds, expended for the erection of the ferry depot building, redeemable January 2, 1912.

Cr.

June 30, 1908.	By total transfers from San Francisco Harbor Improvement Fund for account of principal and interest	$820,735 00
June 30, 1908.	By total interest on United States bonds	129,150 00
June 30, 1908.	By United States bonds matured	70,000 00
June 30, 1910.	By total transfers for principal and interest, 24 months, at $4,631	111,144 00
June 30, 1910.	By total interest on United States bonds	39,450 00
		$1,170,479 00

Dr.

June 30, 1908.	To total principal and interest paid to date	$747,144 63
June 30, 1908.	To total invested in United States bonds	199,500 00
June 30, 1908.	To premiums on bonds and expense of purchase	57,923 10
July 3, 1908.	To U. S. 1925 4% bonds purchased	5,500 00
July 3, 1908.	To premium on same, at $1.20¾	1,141 25
Oct. 21, 1908.	To U. S. 1925 4% bonds purchased	14,000 00
Oct. 21, 1908.	To premium on same at $1.21⅝	3,027 50
May 19, 1909.	To U. S. 1918 3% bonds purchased	29,000 00

May 19, 1909. To premium on same, at $1.02 3-16	$634 37	
May 19, 1909. To brokerage and accrued interest	96 97	
June 30, 1910. To total interest on $600,000 bonds, 24 months at 4%	48,000 00	
		$1,105,967 82
Balance not invested		$64,511 18
On hand:		
June 30, 1908. United States bonds, 1925, 4% face value		$464,500 00
Since purchased: United States bonds, 1925, 4% face value		19,500 00
United States bonds, 1918, 3% face value		29,000 00
June 30, 1910. Cash on hand, not invested		64,511 18
		$577,511 18

On the day of redemption, January 2, 1912, the fund will stand about as follows:

July 1, 1910, to December 31, 1911, 18 monthly transfers at $4,631	$83,358 00
July 1, 1910, to December 31, 1911, interest on 4% bonds, 18 months	29,040 00
July 1, 1910, to December 31, 1911, interest on 3% bonds, 18 months	1,305 00
July 1, 1910, to December 31, 1911, estimated premiums on $484,000 U. S. bonds at 15%	72,600 00
	$763,814 18
Less interest on $600,000, 18 months at 4%	36,000 00
	$727,814 18
Amount of bonds sold	600,000 00
Estimated surplus on January 2, 1912	$127,814 18

The only uncertainty is in the value of United States bonds on that date.

SAN FRANCISCO SEAWALL SINKING FUND.

Cr.

June 30, 1908. By cash balance not invested	$5,569 71
June 30, 1908 to June 30, 1910. By total interest on investments	8,780 27
June 30, 1910. By total monthly installments of principal and interest, 2 years	285,306 71
	$299,656 69

Dr.

July 3, 1908. To purchase San Diego city municipal 4½% bonds	$2,000 00
Dec. 5, 1908. To purchase San Diego city municipal 4½% bonds	17,000 00
May 7, 1909. To purchase San Diego city municipal 4½% bonds	35,000 00
Aug. 26, 1909. To city and county of San Francisco 3½% bonds, par value $25,000	24,492 50
Sept. 3, 1909. To city of Los Angeles water works 3¾% bonds	15,000 00
Feb. 1, 1910. To city of Los Angeles water works 4½% bonds	17,000 00

March 7, 1910. To city of Los Angeles water works 4½% bonds	$13,000 00	
April 14, 1910. To city of Los Angeles water works 4½% bonds	14,000 00	
Nov. 26, 1909. To county of San Diego highway bonds 4½%	6,000 00	
Jan. 6, 1910. To city of Monterey municipal 5% bonds	7,500 00	
Jan. 6, 1910. To city of Long Beach municipal harbor improvement 4½% bonds	12,250 00	
Jan. 19, 1910. To city of Hollywood municipal 4½% bonds	5,000 00	
April 12, 1910. To city of Piedmont municipal improvement 5% bonds	6,150 00	
June 30, 1910. To total accrued interest paid on bonds	1,726 15	
June 30, 1910. To total premiums paid	3,207 94	
June 30, 1910. Total interest on bonds floated 24 months	80,000 00	
		$259,326 59
Balance on hand not invested		$40,330 10

Investments up to June 30, 1910.

Face value of California cities bonds bearing 4½% interest	$151,250 00	
Face value of California cities bonds bearing 5% interest	13,650 00	
Face value of California cities bonds bearing 3¾% interest	15,000 00	
Face value of California cities bonds bearing 3½% interest	25,000 00	
		$204,900 00

Bonds floated under act of legislature redeemable by lot December 31, 1914, up to January 2, 1924, $2,000,000.00.

SAN FRANCISCO SEAWALL FUND, JUNE 30, 1910.

Cr.

June 30, 1910. By balance on hand		$160,532 71
July 2, 1908. By bonds sold		500,000 00
Jan. 6, 1909. By bonds sold		500,000 00
Jan. 6, 1909. By premium		5,025 00
July 2, 1909. By bonds sold		500,000 00
Jan. 3, 1910. By bonds sold		250,000 00
Dr.		$1,915,557 71
July 1, 1908, to June 30, 1910. Total drafts drawn		$1,606,583 02
		$308,974 69
Add premium on bonds sold July 2, 1909, reported by Treasurer under date of September 2, 1910		3,025 00
		$311,999 69
June 30, 1910. State Controller's balance	$372,682 19	
Less draft No. 228, not presented	60,682 50	
		$311,999 69

N. B.—For the accrued interest on bonds sold $2,375.63 *vide* San Francisco Harbor Improvement Fund.

Remarks.

A comparison of the workings of the Seawall Sinking Fund, created under a judiciously worded act of the legislature, with that under which the Depot Sinking Fund has been running is something remarkable. The former has all the features that business acumen could suggest for reasonable protection of the issuers; the latter evinces an utter lack of such quality, as by it the door is barred against any attempt to use the accumulation of the funds for the best interests of the State. Making it imperative that the money shall be invested in United States bonds (always at a high premium) is one great source of loss. Another is that no part of the bonds can be taken up until the time of maturity, January 2, 1912. Of my own personal knowledge there have been parties that offered to sell these bonds at a discount.

By reference to my statement of the San Francisco Depot Sinking Fund you will find my computation of the probable condition of the fund on the date that the bonds mature. In view of the fact that the bonded indebtedness, $600,000.00, being now covered by the securities and cash on hand, I would suggest that an attempt be made to get an act through the legislature under which all or any part of the bonds offered for redemption may be taken up.

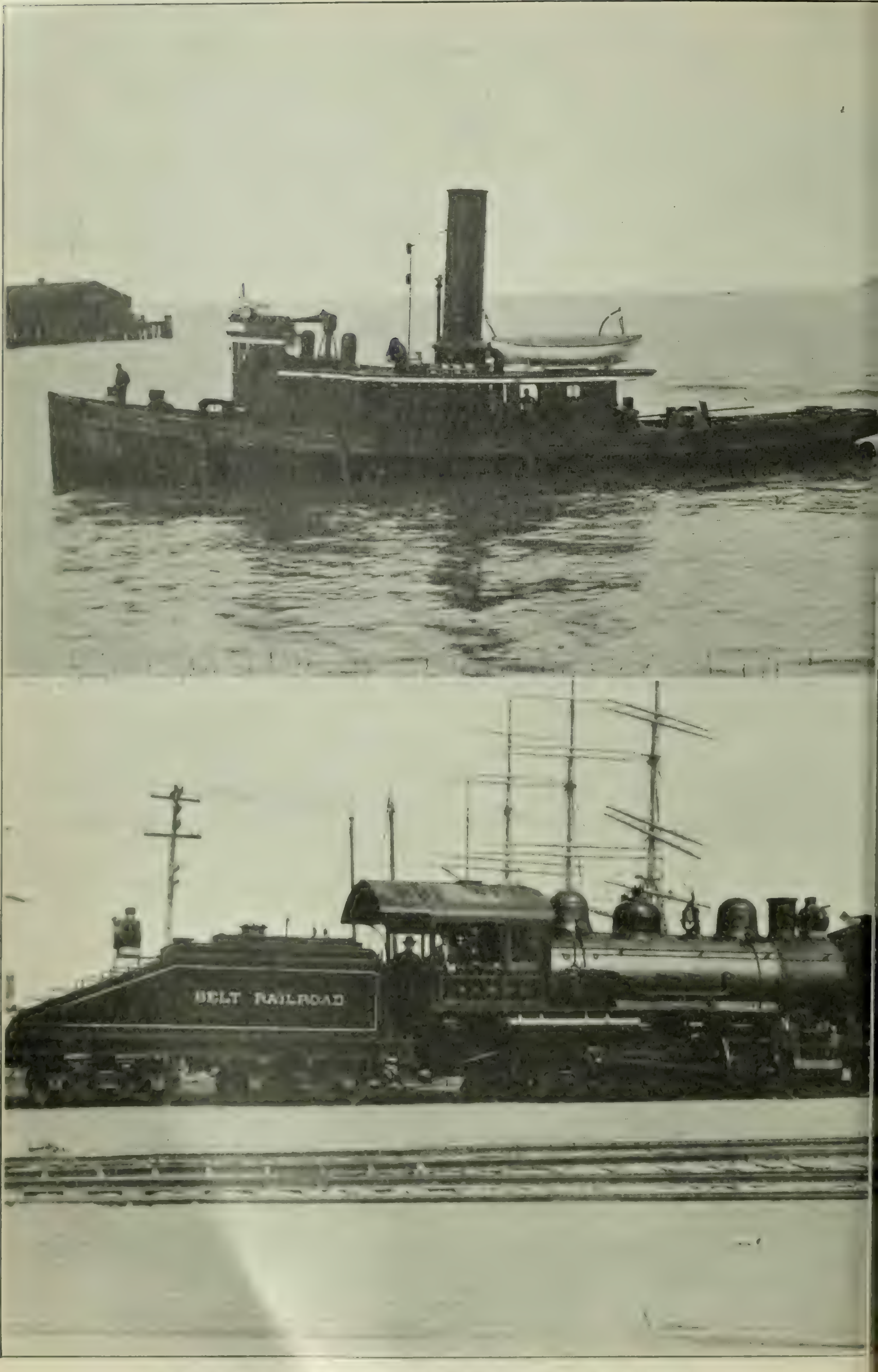
The financial statements embodied in other parts of this biennial report have been checked by me and are in strict accord with the books.

Respectfully submitted.

JULIAN B. HARRIES,
Certified Public Accountant.

PART V.

REPORT OF SUPERINTENDENT OF BELT RAILROAD.



State Tug Governor Irwin and New Engine of Belt Railroad.

REPORT OF THE SUPERINTENDENT OF THE BELT RAILROAD.

SAN FRANCISCO, CALIFORNIA, September 1, 1910.

To the Honorable, the Board of State Harbor Commissioners, Union Depot and Ferry House, San Francisco.

GENTLEMEN: I herewith submit biennial report of the operations of the Belt Railroad for the fiscal years beginning July 1, 1908, and ending June 30, 1910.

Operation.

At the date of the last biennial report considerable work was under way increasing the weight of rail and constructing a heavier roadbed for increased traffic and heavier equipment. Shortly after the date of the report this work was completed and all of the Belt Railroad on East street north of the Ferry building is now constructed along the most modern lines, heavy 9-inch girder rail replacing the light tee rail.

For the past two years we have continuously operated three crews on the road, and during the busy season of the year have had four crews at work. At the present time we have six crews, four north of Market street and two south of Market street.

Maintenance.

Owing to the improved roadbed very little maintenance has been necessary on our tracks. Turnouts and crossings have been subject to occasional repairs and re-alignment made necessary by the increased weight of equipment. I venture the assertion, however, that our track maintenance charges have been reduced by 50 per cent on account of the rebuilding of the tracks.

The rolling equipment, consisting of three locomotives and two flat cars, is in excellent shape. The locomotives have been operated continuously for the past two years with but little rest, and aside from the natural deterioration due to service, show no signs of hard usage or abuse. They have, from time to time, been sent to the Southern Pacific Company's roundhouse for general overhauling and such repairs as were too heavy to be made with our machinery.

Under this heading it is appropriate to mention the rebuilding of what were known as the Northwestern Pacific and Santa Fe yards. These yards were built on seawall lots which were relinquished by the companies renting them. The yards were rebuilt by the Belt Railroad, and the same are now being used for storage and team tracks.

Construction.

Early in 1910 construction was commenced on the Belt Railroad south of Market street, beginning at a point near the foot of Spear street and running southerly along East street to the vicinity of the Pacific Mail docks (piers 42 and 44). The fact that all of the docks in this neighborhood, viz.: 44, 42, 40, 38, 36, and 34, are equipped with rail connections with the Belt Railroad adds to their efficiency, inasmuch as it permits of ship and car being brought together. Pier No. 36 is built with a car ferry slip on the outer end, and is now giving service to all of the railroads for the exchange of cars, the Belt Railroad doing the switching at the established rate. The future for this section of the road looks exceedingly bright, my only fear being that we will be unable to keep pace with the growth of business. I firmly believe that before the end of the current year arrangements will have to be made for more trackage to accommodate the increase of traffic which will come to this part of the water front.

Another important piece of construction completed during the early part of 1910 was the laying of a track along the grain sheds. This track is of great benefit to grain shippers, as it enables them to load cars with expediency, whereas formerly they were compelled to make a team haul.

Receipts and cars handled.

The receipts of the Belt Railroad for the fiscal year beginning July 1, 1908, and ending June 30, 1909, amounted to $131,116.00, and for the fiscal year beginning July 1, 1909, and ending June 30, 1910, amounted to $132,228.00 (including $775 due and not collected on June 30, 1910), an increase over the previous year of $1,112.00. The total amount received for the biennial term amounted to $263,344.00 as against $203,536.00 for the preceding term, an increase of $59,808.00, or 24.47 per cent.

Below I give you a statement of the number of cars handled, by months, for the biennial term. The column denoted as "Extra Switching," means internal and cash switching.

Month.	Cars received.	Cars delivered.	Extra switching.	Total.
July, 1908	2,456	2,050	106	4,612
August, 1908	2,755	2,123	120	4,998
September, 1908	3,011	2,543	113	5,667
October, 1908	3,243	2,849	106	6,198
November, 1908	2,382	2,074	121	4,577
December, 1908	2,072	1,721	102	3,895
January, 1909	1,619	1,216	82	2,917
February, 1909	1,592	1,304	128	3,024
March, 1909	2,018	1,710	145	3,873
April, 1909	1,941	1,746	69	3,756
May, 1909	2,283	1,706	43	4,032
June, 1909	2,105	1,850	65	4,020
Totals	27,477	22,892	1,200	51,569

Month.	Cars received.	Cars delivered.	Extra switching.	Total.
July, 1909	2,419	1,862	52	4,333
August, 1909	2,799	2,132	84	5,015
September, 1909	3,316	2,317	121	5,754
October, 1909	3,674	2,539	151	6,364
November, 1909	2,747	2,126	137	5,010
December, 1909	2,077	1,666	107	3,850
January, 1910	1,753	1,552	66	3,371
February, 1910	1,689	1,465	49	3,203
March, 1910	2,058	1,793	57	3,908
April, 1910	2,050	1,742	32	3,824
May, 1910	2,262	1,744	4	4,010
June, 1910	2,301	1,951	12	4,264
Totals	29,145	22,889	872	52,906
Grand total				104,475

Accidents and casualties.

I am glad to be able to report that there were very few accidents on the Belt Railroad, the most serious occurring on December 17, 1909, when Harry Johnson, a car repairer in the employ of the Southern Pacific Company, was killed. In some unknown manner the man got under the wheels of a moving train and was instantly killed.

The most serious accident to equipment occurred on July 14, 1908, when tank car S. P. 52208 left the track on the Hyde street grade and rolled down the embankment, badly damaging the trucks and brake rigging. The cause of the accident was due to the top-heaviness of the car.

During the past two years there have been five collisions between the street cars of the United Railroads and the equipment of the Belt Railroad. Bills to the amount of $1,669.95 were presented to the Board by the United Railroads to cover the damages sustained to their cars. The bills were rejected, as investigation showed that the damage was the result of negligence on the part of the street car crews in failing to flag the crossings.

Recommendations and general notes.

I desire to recommend that the Board purchase, as soon as possible, a 50-ton locomotive and a 50-ton traveling crane. Too much stress can not be laid upon the necessity of these improvements.

The fact that there have been so very few accidents to equipment on the Belt Railroad has been a matter of comment among railroad officials representing the transcontinental lines in San Francisco. For this efficiency and degree of carefulness I must thank my staff, for without their hearty coöperation such results would have been impossible.

Respectfully submitted.

J. H. BURNHAM,
Superintendent.

PART VI.

FINANCIAL STATISTICS.

FINANCIAL STATISTICS.

Summary of Receipts for the two fiscal years from July 1, 1908, to June 30, 1910.

Source.	1908–09.	1909-10.	Total.
Dockage	$199,532 35	$209,788 20	$409,320 55
Tolls	316,253 89	343,307 39	659,561 28
Wharfage	9,659 90	7,184 73	16,844 63
Rents	674,852 95	917,882 58	1,592,735 53
Miscellaneous:			
Belt Railroad revenue	131,116 00	131,453 00	262,569 00
Sale of old lumber and material	1,957 73	2,143 27	4,101 00
Wharf damages, sales, etc.	7,810 89	3,829 67	11,640 56
Fire loss collected	139 67		139 67
Electric lighting, power, etc.	1,055 87	832 02	1,887 89
Unclaimed wages	71 00		71 00
Western Fuel Co. and others (half cost of wharf)	5,409 17		5,409 17
Pile driving	1,416 00	856 00	2,272 00
Sale of dredger	5,000 00		5,000 00
Free Market	298 16		298 16
Southern Pacific Co. (dredging Channel st.)	12,615 00	8,750 00	21,365 00
Pope & Talbot (paving Second street)		4,550 41	4,550 41
Santa Fe R. R. Co. (damage to barge)		800 00	800 00
Hind, Rolph & Co. (dredging)	660 00		660 00
Home Telephone Co. (paving Francisco st.)		1,560 72	1,560 72
Drafts returned and canceled	51 40		51 40
San Francisco Board of Public Works (Harrison-street Wharf fireboat)		2,461 20	2,461 20
Western Pacific Railroad (sale of rails)		925 70	925 70
Sundry collections		964 30	964 30
Total	$1,367,239 98	$1,637,949 19	$3,005,189 17
Proceeds of sale of seawall bonds			1,755,025 00
Interest on seawall bonds			2,375 63
Balance in Harbor Improvement Fund, June 30, 1908			62,688 91
Balance in San Francisco Seawall Fund, June 30, 1908			160,532 71
Special appropriation by legislature (act approved April 14, 1909) for advertising seawall bonds			22,937 45
Grand total			$5,008,748 87

Disbursements from July 1, 1908, to June 30, 1910.

	1908-09.	1909-10.	Total.
Administration account:			
Salaries of Commissioners	$9,600 00	$9,600 00	$19,200 00
Salaries of Chief Engineer and assistants	2,400 00	2,400 00	4,800 00
Salaries of Chief Wharfinger and assistants	7,858 55	8,463 30	16,321 85
Salary of Attorney	2,400 00	2,400 00	4,800 00
Salaries of watchmen	6,620 00	6,755 35	13,375 35
Collection of revenue:			
Salaries of secretaries and clerks	14,825 00	15,625 00	30,450 00
Salaries of wharfingers	24,800 00	28,790 30	53,590 30
Salaries of collectors	16,208 10	18,875 00	35,083 10
Expense account	24,849 32	43,822 83	68,672 15
Urgent repairs	6,632 49	211 49	6,843 98
Repairs (contract)	102,137 07	91,329 53	193,466 60
General repairs	201,241 10	305,250 95	506,492 05
Pile driving	24,214 06	7,099 41	31,313 47
Cleaning wharves, bulkheads, etc.	34,315 19	34,989 56	69,304 75
Wharf offices and furniture	1,866 22	673 49	2,539 71
Legal expenses	279 85	295 00	574 85
Fire account	2,998 55	2,522 65	5,521 20
Dredger No. 1	1,440 00	321 58	1,761 58
Dredger No. 2	17,180 83	16,666 50	33,847 33
Dredger No. 3	41,118 14	48,273 74	89,391 88
Tug "Governor Markham"	31,460 70	22,137 78	53,598 48
Tug "Governor Irwin"	25,914 86	24,415 40	50,330 26
Launch "J. N. Gillett, Jr."	1,954 80	2,358 77	4,313 57
Construction account	120,330 42	385,656 85	505,987 27
Seawall account	457,550 20	1,149,032 82	1,606,583 02
Dockage refunded	418 67	232 20	650 87
Tolls refunded	703 89	298 97	1,002 86
Wharfage refunded	119 20	55 10	174 30
Rent refunded	327 00	448 05	775 05
Wharfage damages, sales, etc.	1,133 64	1,301 00	2,434 64
Belt Railroad construction		44,422 87	44,422 87
Belt Railroad maintenance	50,096 88	47,871 98	97,968 86
Belt Railroad operation	33,514 71	40,463 53	73,978 24
Electric lighting and supplies	34,362 69	32,548 34	66,911 03
Union Depot and Ferry House, slips, and Postoffice building	37,107 45	42,209 14	79,316 59
Dredging (Channel street)	15,328 12	19,421 88	34,750 00
	$1,353,307 70	$2,457,240 36	$3,810,548 06
Advertising seawall bonds	22,937 45		22,937 45
Part payment and interest on $250,000 loan	58,000 00	56,000 00	114,000 00
Deferred payment drafts paid	66,978 78	58,675 38	125,654 16
Transfers to San Francisco Seawall Sinking Fund	94,145 74	191,160 97	285,306 71
Transfers to San Francisco Depot Sinking Fund	55,572 00	55,572 00	111,144 00
	$1,650,941 67	$2,818,648 71	$4,469,590 38
Balance, June 30, 1910, Harbor Improvement Fund			230,183 80
Balance, June 30, 1910, San Francisco Seawall Fund			308,974 69
			$5,008,748 87

Summary of Receipts and Disbursements, by months, for the two fiscal years ending June 30, 1910.

Year.	Month.	Receipts.		Disbursements.
1908	July	$87,758 83		$77,508 85
	August	94,345 50		60,216 38
	September	108,547 99		56,538 06
	October	98,253 77		78,799 68
	November	104,077 84		125,303 45
	December	154,544 92		190,845 08
1909	January	88,574 76		118,536 17
	February	83,743 18		149,538 18
	March	259,762 00		96,378 11
	April	93,163 25		172,596 71
	May	87,758 48		147,365 36
	June	106,709 46		102,619 12
	Totals for 1908-09	$1,367,239 98		$1,376,245 15
1909	July	$81,048 50		$292,330 90
	August	123,077 49		217,676 01
	September	219,576 38		301,091 57
	October	112,304 98		195,749 91
	November	378,563 50		84,154 02
	December	98,018 14		172,784 91
1910	January	94,090 86		125,501 23
	February	87,346 69		175,654 96
	March	96,965 25		254,320 61
	April	97,335 37		233,379 41
	May	99,984 07		167,539 48
	June	149,635 98		217,057 35
	Totals for 1909-10	$1,637,949 19		$2,457,240 36
	Totals for two years	$3,005,189 17		$3,833,485 51
	Seawall bonds	1,755,025 00	Transfers to S. F. Seawall Fund	285,306 71
	Interest on seawall bonds	2,375 63	Transfers to S. F. Depot Fund	111,144 00
	Balance in treasury, June 30, 1908	62,688 91	Part payment of loan from General Fund	114,000 00
	Balance in San Francisco Seawall Fund, June 30, 1908	160,532 71	Deferred payment drafts	125,654 16
	Special appropriation by legislature (act approved April 14, 1909)	22,937 45	Balance in S. F. Harbor Improvement Fund, June 30, 1910	230,183 80
			Balance in S. F. Seawall Fund, June 30, 1910	308,974 69
		$5,008,748 87		$5,008,748 87

Summary of Revenue, by months, for the two fiscal years from July 1, 1908, to June 30, 1910.

Months.	Dockage.	Tolls.	Wharfage.	Rents.	Miscellaneous.	Total.
1908—July	$14,796 05	$24,695 32	$578 10	$37,472 50	$10,216 86	$87,758 83
August	14,636 50	24,285 11	605 25	42,336 95	12,481 69	94,345 50
September	19,159 75	26,535 94	583 40	36,604 30	25,664 60	108,547 99
October	16,906 10	28,894 17	1,017 55	35,769 70	15,666 25	98,253 77
November	17,056 34	31,205 63	1,121 00	36,684 20	18,010 67	104,077 84
December	17,864 45	28,281 19	862 15	94,258 70	13,278 43	154,544 92
1909—January	17,006 76	24,348 92	873 70	35,747 50	10,597 88	88,574 76
February	16,453 35	23,474 84	801 05	34,673 35	8,340 59	83,743 18
March	17,668 50	23,362 91	968 60	206,684 30	11,077 69	259,762 00
April	17,879 00	27,732 49	782 45	35,682 45	11,086 86	93,163 25
May	14,408 50	26,953 56	665 50	35,873 45	9,857 47	87,758 48
June	15,697 05	26,483 81	801 15	43,065 55	20,661 90	106,709 46
Totals, 1908-1909	$199,532 35	$316,253 89	$9,659 90	$674,852 95	$166,940 89	$1,367,239 98
1909—July	$5,180 90	$27,523 03	$632 93	$40,581 90	$7,129 74	$81,048 50
August	25,674 90	29,024 30	444 00	48,008 20	19,928 07	123,079 47
September	19,688 25	25,858 14	459 50	156,692 05	16,878 44	219,576 38
October	18,536 75	32,852 49	541 20	38,989 05	21,385 49	112,304 98
November	19,950 55	33,311 22	495 55	301,637 45	23,168 73	378,563 50
December	16,134 10	32,335 39	856 55	38,842 25	9,849 85	98,018 14
1910—January	17,861 65	28,114 34	621 65	37,836 15	9,657 07	94,090 86
February	16,387 25	24,475 58	601 15	37,475 55	8,407 16	87,346 69
March	19,419 40	23,751 14	696 75	44,132 72	8,965 24	96,965 25
April	17,781 10	29,715 99	685 70	37,488 10	11,664 48	97,335 37
May	17,716 15	29,177 36	637 20	40,305 60	12,147 76	99,984 07
June	15,457 20	27,168 41	512 55	95,893 56	10,604 26	149,635 98
Totals, 1909-1910	$209,788 20	$343,307 39	$7,184 73	$917.882 58	$159,786 29	$1,637,949 19
Totals, 1908-1910	$409,320 55	$659,561 28	$16,844 63	$1,592,735 53	$326,727 18	$3,005,189 17

Recapitulation of Revenue for the fiscal year beginning July 1, 1908, and ending June 30, 1909.

	Dockage.	Tolls.	Wharfage.	Rents.	Miscellaneous.	Total.
Fisherman Wharf			$4,223 50	$1,071 90		$5,295 40
Sections "A," "B," 1 Seawall, and Powell-street Wharf	$9,438 95	$16,029 28	223 40	7,129 50		32,821 13
Section 2, Seawall Wharf	1,042 45	962 75	1,395 50	180 00		3,580 70
Section 3, Seawall Wharf, and Lombard-street Wharf (pier 27)	5,332 50	9,649 74	205 35	5,830 00		21,017 59
Lombard street car ferry slips, freight depots, and tolls		32,822 56				32,822 56
Greenwich-street Wharf No. 2 (pier 25)	6,678 55	4,818 69	46 75	5,625 00		17,168 99
Greenwich-street Wharf No. 1 (pier 23)	5,116 90	5,997 59	6 35	5,425 00		16,545 84
Filbert-street Wharf (pier 21)	5,273 10	1,678 60	123 40	1,052 50		8,127 60
Union-street Wharf No. 2 (pier 19)	5,225 45	3,788 47	363 95	5,525 00		14,902 87
Union-street Wharf No. 1 (pier 17)	5,005 95	1,712 85	136 30	2 10		6,857 20
Green-street Wharf (pier 15)	2,689 95	3,204 89	15 80	7,880 00		13,790 64
Vallejo-street Wharf (pier 13)	4,604 50	4,888 95	195 85	9,855 00		19,544 30
Broadway Wharf No. 2 (pier 11)	8,258 60	5,060 38	81 60	6,379 80		19,780 38
Broadway Wharf No. 1 (pier 9)	5,703 45	10,769 33	269 40	8,000 00		24,742 18
Pacific-street Wharf (pier 7)	4,113 25	5,683 85	35 15	7,375 00		17,207 25
Jackson-street Wharf (pier 5)	9,776 55	8,068 34	2 50	8,016 25		25,863 64
Washington-street Wharf (pier 3)	7,616 00	7,433 85	3 00	3,796 50		18,849 35
Clay-street Wharf (pier 1)	3,186 85	1,054 18		1,135 00		5,376 03
Union Depot and Ferry House, ferry slips 1, 2, 3, 4, 5, 6, 7, 8, tolls and Postoffice Building		8,466 15		131,164 00		139,630 15
Mission-street Wharf No. 1 (pier 2)	6,390 60	5,600 31	39 10	6,781 00		18,811 01
Mission-street Wharf No. 2 (pier 4)	5,495 35	3,924 85	6 00	7,001 70		16,427 90
Howard-street Wharf No. 1 (pier 6)	8,608 95	2,928 78	236 95	506 00		12,280 68
Howard-street Wharf No. 2 (pier 8)	3,939 55	5,241 11	1 80	5,078 00		14,260 46
Howard-street Wharf No. 3 (pier 10)	4,623 75	5,419 78		3,852 50		13,896 03
Folsom-street Wharf No. 1 (pier 12)				16,200 00		16,200 00
Folsom-street Wharf No. 2 (pier 14)	6,653 70	7,434 85	11 75	4,515 00		18,615 30
Harrison-street Wharf (pier 16)	4,067 30	3,573 52	53 25	3,132 50		10,826 57
Steuart-street Wharf (pier 20)	6,633 50	8,299 61	517 35	4,037 00		19,487 46
Spear-street Wharf (pier 24)	6,244 55	4,001 44	160 90	3,094 00		13,500 89
Main-street car ferry slip, and tolls		3,684 05		14,400 00		18,084 05
Main-street Wharf (pier 28)	5,220 30	3,930 54	1,013 10	900 00		11,063 94
Beale-street Wharf (pier 32)	3,871 85	3,553 09	138 70	3,087 90		10,651 54
Pier 34				167,730 00		167,730 00
Southern Pacific car ferry slip and tolls		61,795 41		14,400 00		76,195 41
Third-street Wharf	4,873 85	3,740 54	121 25	2,433 75		11,169 39
Berry-street Wharf	5,697 35	5,422 54		10,590 00		21,709 89
Channel-street Wharf	3,077 65	1,940 45		15,470 50		20,448 60

Center-street Wharf	12,773 45	16,609 29		3,046 30		32,429 04
Santa Fe car ferry slip		19,204 53				19,204 53
Revenue from seawall lots				83,733 00		83,733 00
Sale of old material					$1,957 73	1,957 73
China Basin				1,000 00		1,000 00
Central Basin				82,381 50		82,381 50
Belt Railroad revenue					131,116 00	131,116 00
Wharfage, damages sales, etc.					7,810 89	7,810 89
U. S. Customs Department (rent and dockage)				3,540 00		3,540 00
Postoffice Station "D" and Ferry Slip No. 8 (lighting)					1,055 87	1,055 87
Piers 42 and 44	22,297 65	17,858 75	31 95	1,293 75		41,482 10
Unclaimed wages					71 00	71 00
Construction					5,409 17	5,409 17
East street (concessions)					1,200 00	1,200 00
Piledriving					1,416 00	1,416 00
Sale of dredger					5,000 00	5,000 00
Free Market					298 16	298 16
Dredging Channel street					12,615 00	12.615 00
Fire loss collected					139 67	139 67
Sidewalk area				6 00		6 00
Drafts returned and canceled					51 40	51 40
Totals	$199,532 35	$316,253 89	$9,659 90	$674,852 95	$166,940 89	$1,367,239 98

Recapitulation of Revenue for the fiscal year beginning July 1, 1909, and ending June 30, 1910.

	Dockage.	Tolls.	Wharfage.	Rents.	Miscellaneous.	Total.
Fisherman Wharf			$4,305 50	$1,035 00		$5,305 50
Sections "A," "B," 1 Seawall, and Powell-street Wharf	$10,280 50	$15,824 58	165 15	6,959 50		33,229 73
Section 2, Seawall Wharf	2,307 80	4,375 40	1,373 95	250 00		8,307 15
Section 3, Seawall Wharf and Lombard-street Wharf (pier 27)	5,161 15	7,638 40	138 35	6,883 50		19,821 40
Lombard-street car ferry slips, freight depots, and tolls		38,549 99				38,549 99
Greenwich-street Wharf No. 2 (pier 25)	6,058 90	5,733 44	23 95	8,100 00		19,916 29
Greenwich-street Wharf No. 1 (pier 23)	4,382 10	4,824 90	2 70	8,100 00		17,309 70
Filbert-street Wharf (pier 21)	5,388 15	4,355 95	12 00	5,670 00		15,426 10
Union-street Wharf No. 2 (pier 19)	5,642 40	4,532 32	33 95	7,900 00		18,108 67
Union-street Wharf No. 1 (pier 17)	3,352 65	949 13	11 98			4,313 76
Green-street Wharf (pier 15)	1,191 25	772 46		8,280 00		10,243 71
Vallejo-street Wharf (pier 13)	9,260 65	9,593 62	18 35	12,200 00		31,072 62
Broadway Wharf No. 2 (pier 11)	7,750 45	5,822 78	5 55	8,497 00		22,075 78
Broadway Wharf No. 1 (pier 9)	5,785 70	10,937 47	25	11,490 00		28,213 42
Pacific-street Wharf (pier 7)	6,084 18	5,834 04		8,380 00		20,298 22
Jackson-street Wharf (pier 5)	8,967 15	5,260 51		12,087 50		26,315 16
Washington-street Wharf (pier 3)	7,406 60	5,585 96		6,273 47		19,266 03
Clay-street Wharf (pier 1)	3,546 65	1,194 98		1,860 00		6,601 63
Union Depot and Ferry House, ferry slips 1, 2, 3, 4, 5, 6, 7, 8, tolls and Postoffice Building		10,223 52		134,619 29		144,842 81
Mission-street Wharf No. 1 (pier 2)	1,799 80	1,028 62	17 45	2,689 00		5,534 87
Mission-street Wharf No. 2 (pier 4)	4,298 40	2,857 37	5 80	7,891 25		15,052 82
Howard-street Wharf No. 1 (pier 6)	9,115 35	3,139 15	3 00	1,105 30		13,362 80
Howard-street Wharf No. 2 (pier 8)	3,029 60	2,748 66	17 30	6,812 50		12,608 06
Howard-street Wharf No. 3 (pier 10)	3,674 35	5,323 18		5,794 00		14,791 53
Folsom-street Wharf No. 1 (pier 12)				19,440 00		19,440 00
Folsom-street Wharf No. 2 (pier 14)	11,669 35	7,865 86	2 40	4,560 00		24,097 61
Harrison-street Wharf (pier 16)	2,647 75	790 74	23 05	3,340 00		6,801 54
Steuart-street Wharf (pier 20)	4,361 60	5,333 52	124 45	2,357 50		12,177 07
Spear-street Wharf (pier 24)	3,722 25	2,600 75	30 70	344 00		6,697 70
Main-street car ferry slip and tolls		2,305 27		14,400 00		16,705 27
Main-street Wharf (pier 28)	2,299 00	3,096 93	141 05	901 00		6,437 98
Beale-street Wharf (pier 32)	172 70	488 12		500 00		1,160 82
Pier 40	5,247 50	7,655 69		7,212 90		20,116 09
Southern Pacific car ferry slip and tolls		36,591 93				36,591 93
Third-street Wharf	5,201 50	5,637 43	337 90	2,635 00		13,811 83
Berry-street Wharf	6,446 95	7,486 54		10,915 00		24,848 49
Channel-street Wharf	3,746 80	4,024 60		13,128 50		20,899 90

Center-street Wharf	8,042 85	17,398 19	101 50	2,260 80		27,803 34
Santa Fe car ferry slip		15,239 60				15,239 60
Revenue from seawall lots				251,941 27		251,941 27
Sale of old material					$39 55	39 55
China Basin	3,677 90	13,989 61		1,000 00		18,667 51
Central Basin	5,506 82	32,483 27	260 20	24,909 30		63,159 59
Belt Railroad revenue					132,228 00	132,228 00
Tugs and dredgers, sale of old material						
Wharfage, damages, sales, etc.						
U. S. Customs Department (rent and dockage)				4,200 00		4,200 00
Postoffice Station "D" and Ferry Slip No. 8 (lighting)						
Pier No. 36	2,685 90	1,440 68	9 00			4,135 58
Pier No. 38	5,916 60	5,953 48		3,905 50		15,775 58
Piers Nos. 42 and 44	23,878 90	13,394 33		1,200 00		38,473 23
Damage to wharves					4,253 33	4,253 33
East street				4,195 00		4,195 00
El Dorado street				7,200 00		7,200 00
Rent from pile driver					856 00	856 00
Dredging Channel street					8,750 00	8,750 00
Lighting, power, heating, etc.					832 02	832 02
Sale of old lumber					2,103 72	2,103 72
Sundry miscellaneous					11,694 86	11,694 86
Pier No. 54				263,000 00		263,000 00
Spring Valley Water Co.				750 00		750 00
	$209,708 15	$340,882 97	$7,165 48	$917,173 08	$160,757 48	$1,635,687 16
Balance uncollected July 1, 1909					$44,842 66	
Less bills canceled					550 00	
					$44,292 66	
Balance uncollected July 1, 1910					42,060 83	
					$2,231 83	
Refunds					30 20	2,262 03
Total						$1,637,949 19

Monthly and Term Incomes from leases of Seawall Lots which were executed prior to July 1, 1910.

Lot.	Lessee.	Term.	Monthly rental.		Total for 5-year period.	Total for term of lease.		
B.	Crescent Lumber Co.	25 years from April 1, 1910.	First 5 years	$225 00	$13,500 00		$70,500 00	
			Second 5 years	230 00	13,800 00	Less payments to June 30, 1910	675 00	
			Third 5 years	235 00	14,100 00			
			Fourth 5 years	240 00	14,400 00			
			Fifth 5 years	245 00	14,700 00	Amount due		$69,825 00
4	*Subdivision A.* National Packing Co.	25 years from July 1, 1909.	First 5 years	152 00	9,120 00		$50,400 00	
			Second 5 years	160 00	9,600 00	Less payments to June 30, 1910	1,824 00	
			Third 5 years	168 00	10,080 00			
			Fourth 5 years	176 00	10,560 00			
			Fifth 5 years	184 00	11,040 00	Amount due		48,576 00
	Subdivisions B and C. Midland Warehouse Co.	25 years from July 1, 1909.	First 5 years	188 00	11,280 00		$62,340 00	
			Second 5 years	197 00	11,820 00	Less payments to June 30, 1910	2,256 00	
			Third 5 years	207 00	12,420 00			
			Fourth 5 years	218 00	13,080 00			
			Fifth 5 years	229 00	13,740 00	Amount due		60,084 00
7	Western Pacific Railway Co.	25 years from July 1, 1910.	First 5 years	1,083 33	64,999 80		$365,625 00	
			Second 5 years	1,151 04	69,062 40			
			Third 5 years	1,218 75	73,125 00	Amount due		365,625 00
			Fourth 5 years	1,286 46	77,187 60			
			Fifth 5 years	1,354 17	81,250 20			
14	Southern Pacific Co.	25 years from August 1, 1901.		500 00			$150,000 00	
						Less payments to June 30, 1910	53,500 00	
						Amount due		96,500 00
15	Southern Pacific Co.	25 years from August 1, 1901.		500 00			$150,000 00	
						Less payments to June 30, 1910	53,500 00	
						Amount due		96,500 00

16	P. J. Moliterno.	25 years from May 1, 1909.	First 5 years	101 00	6,060 00		$33,060 00	
			Second 5 years	105 00	6,300 00	Less payments to June 30, 1910	1,414 00	
			Third 5 years	110 00	6,600 00			
			Fourth 5 years	115 00	6,900 00			
			Fifth 5 years	120 00	7,200 00	Amount due		31,646 00
21	Western Pacific Railway Co.	25 years from August 1, 1910.	First 5 years	249 09	14,945 40		$84,067 80	
			Second 5 years	264 66	15,879 60			
			Third 5 years	280 23	16,813 80	Amount due		84,067 80
			Fourth 5 years	295 79	17,747 40			
			Fifth 5 years	311 36	18,681 60			
22	Western Pacific Railway Co.	25 years from August 1, 1910.	First 5 years	1,346 39	80,783 40		$454,406 40	
			Second 5 years	1,430 54	85,832 40			
			Third 5 years	1,514 69	90,881 40	Amount due		454,406 40
			Fourth 5 years	1,598 84	95,930 40			
			Fifth 5 years	1,682 98	100,978 80			
23	Southern Pacific Co.	25 years from October 1, 1909.	First 5 years	990 00	59,400 00		$434,400 00	
			Second 5 years	1,325 00	79,500 00	Less payments to June 30, 1910	8,910 00	
			Third 5 years	1,475 00	88,500 00			
			Fourth 5 years	1,650 00	99,000 00			
			Fifth 5 years	1,800 00	108,000 00	Amount due		425,490 00
24	*Subdivision A.* Associated Oil Co.	25 years from October 1, 1909.	First 5 years	214 00	12,840 00		$82,620 00	
			Second 5 years	245 00	14,700 00	Less payments to June 30, 1910	1,926 00	
			Third 5 years	275 00	16,500 00			
			Fourth 5 years	306 00	18,360 00			
			Fifth 5 years	337 00	20,220 00	Amount due		80,694 00
	Subdivision B. Southern Pacific Co.	25 years from October 1, 1909.	First 5 years	750 00	45,000 00		$330,000 00	
			Second 5 years	1,000 00	60,000 00	Less payments to June 30, 1910	6,750 00	
			Third 5 years	1,125 00	67,500 00			
			Fourth 5 years	1,250 00	75,000 00			
			Fifth 5 years	1,375 00	82,500 00	Amount due		323,250 00
						Total amount due		$2,136,664 20

Monthly Income from Union Depot and Ferry Building.

Tenants.	Monthly rentals, July, 1908.	Monthly rentals, June, 1910.	Increase.	Decrease.
Southern Pacific Company	$3,950 00	$3,988 45	$38 45	----------
Key Route	752 00	1,013 83	261 83	----------
Northwestern Pacific and Santa Fe	1,955 00	2,748 84	793 84	----------
Wells, Fargo & Co.	500 00	1,073 90	573 90	----------
Kilburn & Hayden	10 00	26 32	16 32	----------
Pullman Company	100 00	100 00	----------	----------
Fred Harvey	----------	15 00	15 00	----------
Foster & O'Rear	1,050 00	1,050 00	----------	----------
McPartland & Reich	450 00	450 00	----------	----------
F. W. Butler	150 00	200 00	50 00	----------
C. Cohen	75 00	139 50	64 50	----------
Union Transfer Company	----------	49 12	49 12	----------
Pacific Transfer Company	----------	15 00	15 00	----------
Postal Telegraph Company	50 00	50 00	----------	----------
Dennison News Company	----------	15 00	15 00	----------
Western Union Telegraph Company	50 00	80 00	30 00	----------
U. S. Customs Service	50 00	50 00	----------	----------
State Labor Bureau	100 00	115 00	15 00	----------
State Railroad Commission	100 00	100 00	----------	----------
State Prison Board	75 00	50 00	----------	$25 00
State Bureau of Horticulture	30 00	30 00	----------	----------
State Mining Bureau	135 00	135 00	----------	----------
California Development Board	115 00	241 20	126 20	----------
H. R. Thompson	----------	15 00	15 00	----------
Bootblack privileges	125 00	100 00	----------	25 00
Piano privileges	250 00	250 00	----------	----------
Advertising privileges	175 00	175 00	----------	----------
Weighing scale privileges	45 00	45 00	----------	----------
Morton Special Delivery Company	50 00	50 00	----------	----------
Pacific Telephone and Telegraph Co.	260 00	260 00	----------	----------
Totals	$10,602 00	$12,631 16	$2,079 16 50 00	$50 00
Net increase	----------	----------	$2,029 16	

Monthly Income from Union Depot and Ferry Building.

Tenants.	Monthly rentals, July, 1908.	Monthly rentals, June, 1910.	Increase.	Decrease.
Southern Pacific Company	$3,950 00	$3,988 45	$38 45	
Key Route	752 00	1,013 83	261 83	
Northwestern Pacific and Santa Fe	1,955 00	2,748 84	793 84	
Wells, Fargo & Co.	500 00	1,073 90	573 90	
Kilburn & Hayden	10 00	26 32	16 32	
Pullman Company	100 00	100 00		
Fred Harvey		15 00	15 00	
Foster & O'Rear	1,050 00	1,050 00		
McPartland & Reich	450 00	450 00		
F. W. Butler	150 00	200 00	50 00	
C. Cohen	75 00	139 50	64 50	
Union Transfer Company		49 12	49 12	
Pacific Transfer Company		15 00	15 00	
Postal Telegraph Company	50 00	50 00		
Dennison News Company		15 00	15 00	
Western Union Telegraph Company	50 00	80 00	30 00	
U. S. Customs Service	50 00	50 00		
State Labor Bureau	100 00	115 00	15 00	
State Railroad Commission	100 00	100 00		
State Prison Board	75 00	50 00		$25 00
State Bureau of Horticulture	30 00	30 00		
State Mining Bureau	135 00	135 00		
California Development Board	115 00	241 20	126 20	
H. R. Thompson		15 00	15 00	
Bootblack privileges	125 00	100 00		25 00
Piano privileges	250 00	250 00		
Advertising privileges	175 00	175 00		
Weighing scale privileges	45 00	45 00		
Morton Special Delivery Company	50 00	50 00		
Pacific Telephone and Telegraph Co.	260 00	260 00		
Totals	$10,602 00	$12,631 16	$2,079 16 50 00	$50 00
Net increase			$2,029 16	

COMPARATIVE STATEMENT OF RECEIPTS AND DISBURSEMENTS—1863-1910.

FISCAL YEAR.	RECEIPTS.				DISBURSEMENTS.															
					EXPENSES.		CONSTRUCTION AND REPAIR.		DREDGING.											
From the organization of the commission	Revenue from all sources	Deferred payment drafts	Drafts refused and canceled	Total	Salaries, law fees, fuel, rent, printing, stationery, etc.	Percentage per year	Building, sheds, wharves, bulkheads, etc., ferry foundation, and repairs on same	Seawall	Labor, fuel, oil, water, repairs, ship chandlery, etc.	Contract dredging	Purchase of scows and dredgers	Constructing and operating Belt Railroad	Miscellaneous, including damages paid	Transfer to San Francisco Depot Sinking Fund	Transfer to San Francisco Seawall Sinking Fund	Deferred payment drafts paid	Balance in San Francisco Harbor Improvement Fund June 30, 1910	Balance in San Francisco Seawall Fund June 30, 1910	Part payment of principal and interest on loan from State of California of $250,000 00; act Mar. 17, 1907, chap. 202	TOTAL
1863-64	$117,848 28			$117,848 28	$25,354 84	21.50	$67,599 82						$676 25							
1864-65	177,393 66			177,393 66	32,439 10	18.28	80,875 15													
1865-66	183,716 80			183,716 80	35,531 42	19.02	19,055 42	$3,607 00		$44,106 50										
1866-67	336,409 36			336,409 36	41,233 95	11.95	88,525 78	266 50		10,300 00			330 62							
1867-68	294,304 28			294,304 28	55,531 92	18.87	82,791 27	250,991 97		41,021 00			561 18							
1868-69	287,890 53			287,890 53	52,130 77	18.11	38,779 83	262,323 13		32,338 00										
1869-70	252,649 56			252,649 56	54,684 40	21.65	35,545 04	165,892 68		80,100 00										
1870-71	148,917 03			148,917 03	37,782 65	25.37	53,693 31			35,258 00										
1871-72	195,031 14			195,031 14	61,006 70	31.28	28,146 62			53,944 40										
1872-73	190,330 47			190,330 47	69,858 63	36.50	78,776 28			32,293 20										
1873-74	265,709 06			265,709 06	77,938 05	29.33	104,175 98	2,321 85		42,478 56	$34,070 00		6,344 01							
1874-75	373,541 72			373,541 72	68,617 14	18.37	209,540 80	1,078 25	$33,835 71		3,725 00		924 99							
1875-76	372,078 74			372,078 74	65,976 57	17.73	162,000 25		31,363 19	9,439 51			565 47							
1876-77	448,087 25			448,087 25	79,208 85	17.68	284,023 05		25,252 94		15,354 45									
1877-78	446,516 82			446,516 82	84,326 72	18.88	112,628 95	4,803 38	38,214 40		82,068 79		1,665 88							
1878-79	466,420 55			466,420 55	97,162 63	20.83	164,560 55	107,091 87	60,454 68		3,948 84		595 50							
1879-80	427,687 56			427,687 56	100,667 57	23.53	141,022 14	309,652 90	51,675 28		1,173 50		2,510 53							
1880-81	419,437 49			419,437 49	102,746 75	24.49	199,972 97	383,174 96	51,462 52				4,785 32							
1881-82	455,005 64			455,005 64	104,255 15	22.91	86,102 58	92,804 98	48,743 45				4,320 00							
1882-83	436,030 54			436,030 54	107,883 69	24.74	179,089 82	34,949 22	51,457 50		5,247 00		28,129 37							
1883-84	501,243 25			501,243 25	115,231 30	22.98	173,997 19	76,461 63	60,780 40				6,863 55							
1884-85	500,702 10			500,702 10	116,194 14	23.20	248,607 11	195,706 95	52,258 80				4,933 50							
1885-86	483,851 04			483,851 04	117,693 22	24.32	197,612 03	157,953 82	46,675 40				4,324 00							
1886-87	527,890 96			527,890 96	128,584 90	24.35	153,529 29	53,403 50	78,046 99				5 742 95							
1887-88	580,152 51			580,152 51	138,993 05	23.95	294,855 61	36,360 98	54,082 70				5,450 62							
1888-89	619,537 54			619,537 54	139,552 66	20.91	231,353 84	101,586 24	62,424 96				10,152 33							
1889-90	599,105 58			599,105 58	131,262 56	21.91	301,063 18	115,419 48	51,588 91				5,257 21							
1890-91	600,821 20			600,821 20	115,579 39	19.23	269,542 63	65,810 20	53,230 81			$327 61	9,600 62							
1891-92	651,112 11			651,112 11	114,860 89	17.64	275,083 97	122,112 90	56,081 70			81,307 46	7,663 95							
1892-93	629,957 55			629,957 55	121,882 55	19.34	319,991 36	72,025 44	54,006 33	865 15	25,384 00	15,933 10	5,771 81	$23,155 00						
1893-94	583,674 58			583,674 58	123,039 43	21.08	338,570 00	23 158 22	58,357 87			14,643 63	4,815 50	55,572 00						
1894-95	586,618 61			586,618 61	137,684 55	23.47	444,366 85	55 00	79,664 43			30,755 26	4,827 05	55,572 00						
1895-96	599,207 89			599,207 89	135,267 13	22.57	390,935 35		56,639 02			15,189 01	6,582 96	55,572 00						
1896-97	562,123 05			562,123 05	133,138 80	23.68	319,085 55	6,658 01	55,686 31			11,422 27	5,938 89	55,572 00						
1897-98	581,661 05			581,661 05	151,598 53	26.06	313,603 11		54,278 81			18,458 62	8,833 26	55,572 00						
1898-99	630,446 62		$123 45	630,570 07	170,678 51	27.07	293,560 22		54,102 91			25,539 38	10,553 75	55,572 00						
1899-00	731,033 41		34 80	731,068 21	150,533 68	21.66	385,662 52		60,593 79			37,476 81	10,768 53	55,572 00						
1900-01	772,989 03		11,623 43	784,612 46	148,069 59	19.23	460,741 42	3,060 93	46,166 24	1,900 50		76,346 58	11,467 99	55,572 00						
1901-02	825,191 43			825,191 43	164,294 43	19.91	460 548 25		59,494 87	7,691 25		67,316 66	8,277 71	55,572 00						
1902-03	829,096 35			829,096 35	168,061 41	20.27	375,195 39		58,873 99	11,199 00	19,500 00	57,650 63	9,693 24	55,572 00						
1903-04	1,008,193 09	$504,218 01	88 60	1,512,499 70	194,058 77	19.24	801,174 21	4,352 41	107,034 35		34,675 00	80,343 86	31,195 73	55,572 00		$232,102 22				
1904-05	1,283,804 80	261,188 98	279 04	1,545,272 82	197,888 30	15.41	535,145 30	149,022 10	135,870 08			71,061 93	6,583 66	55,572 00		135,878 42				
1905-06	1,065,990 36	99,789 67		1,165,780 03	177,769 73	16.67	705,537 38	1,631 77	62,086 12			66,823 39	7,656 62	55,572 00	$5,727 78	161,459 12				
1906-07	1,241,294 96			1,241,294 96	195,695 99	15.76	803,445 81		69,891 42			81,328 61	11,102 81	55,572 00	24,018 69	116,131 68				
1907-08	1,351,949 67		183 90	1,351,949 67	205,197 65	15.18	806,504 36		82,805 29			139,937 07	14,630 30	55,572 00	24,018 64	80,196 50			$60,000 00	
1908-09	1,367,188 58		51 40	1,367,239 98	279,821 28	20.47	454,555 14	480,487 65	75,067 09			83,611 59	2,703 00	55,572 00	94,145 14	66,978 78			58,000 00	
1909-10	1,637,949 19			1,637,949 19	298,881 91	18.25	789,548 23	1,149,032 82	84,683 70			132,758 38	2,335 32	55,572 00	191,160 97	58,675 38			56,000 00	
	$27,647,801 99	$865,196 66	$12,384 62	$28,525,383 27	$5,626,351 85	Average, 21.38	$13,360,730 91	$4,433,258 74	$2,162,932 96	$402,935 07	$225,145 58	$1,108,232 16	$275,135 98	$967,879 00	$339,071 22	$851,422 10	$230,183 80	$308,974 69	$174,000 00	$30,466,254 06
Proceeds of sale of seawall bonds				1,755,025 00																
Interest on seawall bonds				2,375 00																
Balance in San Francisco Seawall Fund, June 30, 1908				160,532 71																
Special appropriation by legislature (act approved April 14, 1909) for advertising seawall bonds				22,937 45																
				$30,466,254 06																

Statement of the San Francisco Harbor Improvement Fund (State Treasurer, custodian) for the two fiscal years ending June 30, 1910.

Year.	Month.	Remittances to State Treasurer.		Drafts drawn by Board.
1908	July	$86,790 10		$49,376 18
	August	93,127 09		58,346 02
	September	107,744 29		53,698 11
	October	96,017 90		61,296 92
	November	102,900 41		80,980 39
	December	154,396 22		104,802 56
1909	January	88,549 20		88,573 61
	February	83,733 18		83,139 57
	March	259,730 55		69,438 25
	April	93,124 25		89,095 14
	May	87,746 36		84,899 47
	June	106,696 54		88,416 24
	Totals for 1908-09	$1,360,556 09		$912,062 46
1909	July	$81,029 24		$90,578 99
	August	123,060 05		114,546 77
	September	219,569 78		108,838 65
	October	112,290 08		75,301 06
	November	378,543 67		65,481 81
	December	98,002 98		72,259 85
1910	January	94,069 71		113,537 33
	February	87,328 08		127,756 21
	March	96,952 90		135,095 14
	April	97,310 95		159,728 31
	May	99,958 51		130,145 96
	June	149,621 75		114,725 97
	Totals for 1909-10	$1,637,737 70		$1,307,996 05
	Totals	$2,998,293 79		$2,220,058 51
	Drafts returned and canceled	51 40	Deferred payment drafts	125,654 16
	Balance in treasury June 30, 1908	62,688 91	Transfers to S. F. Seawall Sinking Fund	285,306 71
	Interest on bonds	2,375 63	Transfers to S. F. Depot Sinking Fund	111,144 00
	Special appropriation by legislature (act approved April 14, 1909)	22,937 45	Part payment of loan from General Fund	114,000 00
		$3,086,347 18		$3,086,347 18

Statement of the San Francisco Harbor Improvement Fund, November 4, 1863, to June 30, 1910.

Fiscal Year. From the Organization of the Commission.	Remittances to the credit of San Francisco Harbor Improvement Fund (State Treasurer, custodian).	Drafts on San Francisco Harbor Improvement Fund (State Treasurer, custodian).
1863-64	$71,897 39	$47,680 02
1864-65	123,365 23	62,334 82
1865-66	132,023 96	47,568 50
1866-67	268,573 45	64,345 94
1867-68	217,528 06	354,121 12
1868-69	212,532 07	310,213 27
1869-70	180,623 37	272,670 93
1870-71	96,097 20	73,914 13
1871-72	105,877 82	53,944 40
1872-73	91,042 59	80,640 23
1873-74	106,150 23	168,769 62
1874-75	245,369 00	189,549 17
1875-76	249,450 44	146,716 69
1876-77	310,909 33	266,661 37
1877-78	285,521 50	162,712 80
1878-79	274,370 87	241,764 39
1879-80	240,414 91	419,429 27
1880-81	204,782 41	527,487 44
1881-82	249,919 90	131,140 42
1882-83	194,860 84	165,586 90
1883-84	254,497 78	186,588 60
1884-85	259,702 01	376,700 41
1885-86	249,431 18	289.838 61
1886-87	245,509 83	136,926 50
1887-88	294,861 66	244,452 11
1888-89	321,605 12	247,137 61
1889-90	306,148 20	311,633 96
1890-91	319,721 19	232,991 25
1891-92	360,206 68	366,205 44
1892-93	334,575 70	376,049 89
1893-94	281,417 59	315,899 66
1894-95	215,278 73	381,585 26
1895-96	285,523 57	346,501 16
1896-97	256,612 21	281,991 29
1897-98	224,702 65	245,385 94
1898-99	334,943 72	314,371 42
1899-1900	669,814 33	639.360 25
1900-01	725,703 72	745,015 51
1901-02	760,506 95	758.510 69
1902-03	761,337 47	687,986 78
1903-04	898,950 73	926,958 58
1904-05	1,220,947 50	962,696 47
1905-06	916,614 85	1,095,098 73
From State of California (act of special session 1906, chapter XXXVI)	100,000 00	
1906-07	1,171,142 68	1,286,934 73
1907-08	1,074,112 64	1,440.840 88
From State of California (act of special session 1907, chapter 202, act of March 13, 1907)	250,000 00	
1908-09	1,360,556 09	912,062 46
1909-10	1,637.737 70	1,307,996 05
Balance in treasury, July 1, 1908	62,688 91	
Interest on bonds	2,375 63	
Drafts returned and canceled	51 40	
Received from General Fund (act approved April 14, 1909)	22,937 45	
Deferred payment drafts		125,654 16
San Francisco Seawall Sinking Fund		285,306 71
San Francisco Depot Sinking Fund		111.144 00
Part payment of $2[illegible]000 loan from General Fund		114,000 00
Balance on hand, June 30, 1910		230,183 80
Totals	$20,101,525 45	$20,101,525 45

Proceeds of the Sales of Bonds for the San Francisco Seawall Fund.

June 25, 1907	By sale of bonds, 250 at par value of $1,000 each	$250,000 00
June 25, 1907	By premium on same	11,850 00
July 27, 1908	By interest	739 73
July 27, 1908	By sale of bonds, 500 at par value of $1,000 each	500,000 00
January 31, 1909	By interest	611 00
January 31, 1909	By sale of bonds, 500 at par value of $1,000 each	500,000 00
January 31, 1909	By premium on same	5,025 00
July 19, 1909	By interest	719 35
July 19, 1909	By sale of bonds, 500 at par value of $1,000 each	500,000 00
January 15, 1910	By interest	305 55
January 15, 1910	By sale of bonds, 250 at par value of $1,000 each	250,000 00
	Total proceeds	$2,019,250 63
	Less interest, transferred to Harbor Improvement Fund	2,375 63
		$2,016,875 00
	Total disbursements	$1,707,900 31
	Balance in treasury, June 30, 1910	308,974 69
		$2,016,875 00

NOTE.—The items of interest are not included in the balance on hand of the Seawall Fund, as they were placed to the credit of the Harbor Improvement Fund.

Disbursements of the San Francisco Seawall Fund for the two fiscal years from July 1, 1908, to June 30, 1910, including construction, pay roll, materials, piledriving, and all other details of building seawall, bulkheads, etc.

Year.	Month—	Amount disbursed.
1908	July	$27,163 94
	August	651 95
	September	2,036 25
	October	15,266 89
	November	43,145 63
	December	85,931 72
1909	January	29,937 00
	February	66,388 61
	March	26,921 91
	April	83.462 57
	May	62,453 77
	June	14,189 96
	July	201,732 65
	August	123,109 82
	September	192,246 32
	October	120,433 95
	November	18,652 38
	December	109.509 90
1910	January	11,942 75
	February	47,880 14
	March	119,213 12
	April	73,626 68
	May	37,367 96
	June	102.317 15
	Total disbursements	$1,606,583 02
	Disbursed prior to July 1, 1908	101,317 29
	Grand total	$1,707,900 31

Statement of San Francisco Seawall Sinking Fund, June 30, 1910.

		Sinking Fund.	terest.	Total.
1908—July	To amount transferred from S. F. Harbor Improvement Fund	$1,168 22	$833 25	$2,001 47
Aug.	do	3,856 77	2,500 00	6,356 77
Sept.	do	3,856 39	2,500 00	6,356 39
Oct.	do	3,856 39	2,500 00	6,356 39
Nov.	do	3,856 39	2,500 00	6,356 39
Dec.	do	3,856 39	2,500 00	6,356 39
1909—Jan.	do	3,856 39	2,500 00	6,356 39
Feb.	do	6,635 56	4,166 75	10,802 31
Mar.	do	6,634 16	4,166 65	10,800 81
Apr.	do	6,634 16	4,166 65	10,800 81
May	do	6,634 16	4,166 65	10,800 81
June	do	6,634 16	4,166 65	10,800 81
July	do	6,634 16	4,166 65	10,800 81
Aug.	do	9,508 28	5,833 35	15,341 63
Sept.	do	9,507 72	5,833 33	15,341 05
Oct.	do	9,507 72	5,833 33	15,341 05
Nov.	do	9,507 72	5,833 33	15,341 05
Dec.	do	9,507 72	5,833 33	15,341 05
1910—Jan.	do	9,507 72	5,833 33	15,341 05
Feb.	do	10,996 69	6,666 75	17,663 44
Mar.	do	10,995 81	6,666 65	17,662 46
Apr.	do	10,995 81	6,666 65	17,662 46
May	do	10,995 81	6,666 65	17,662 46
June	do	10,995 81	6,666 65	17,662 47
	Totals for two fiscal years ending June 30, 1910	$176,140 11	$109,166 60	$285,306 71
	Transferred prior to June 30, 1908	31,542 86	22,222 25	53,765 11
	Totals	$207,682 97	$131,388 85	$339,071 82

Statement of San Francisco Depot Sinking Fund, June 30, 1910.

		Sinking Fund.	Interest.	Total.
1908—July	To amount transferred from S. F. Harbor Improvement Fund	$2,631 00	$2,000 00	$4,631 00
Aug.	do	2,631 00	2,000 00	4,631 00
Sept.	do	2,631 00	2,000 00	4,631 00
Oct.	do	2,631 00	2,000 00	4,631 00
Nov.	do	2,631 00	2,000 00	4,631 00
Dec.	do	2,631 00	2,000 00	4,631 00
1909—Jan.	do	2,631 00	2,000 00	4,631 00
Feb.	do	2,631 00	2,000 00	4,631 00
Mar.	do	2,631 00	2,000 00	4,631 00
Apr.	do	2,631 00	2,000 00	4,631 00
May	do	2,631 00	2,000 00	4,631 00
June	do	2,631 00	2,000 00	4,631 00
July	do	2,631 00	2,000 00	4,631 00
Aug.	do	2,631 00	2,000 00	4,631 00
Sept.	do	2,631 00	2,000 00	4,631 00
Oct.	do	2,631 00	2,000 00	4,631 00
Nov.	do	2,631 00	2,000 00	4,631 00
Dec.	do	2,631 00	2,000 00	4,631 00
1910—Jan.	do	2,631 00	2,000 00	4,631 00
Feb.	do	2,631 00	2,000 00	4,631 00
Mar.	do	2,631 00	2,000 00	4,631 00
Apr.	do	2,631 00	2,000 00	4,631 00
May	do	2,631 00	2,000 00	4,631 00
June	do	2,631 00	2,000 00	4,631 00
	Totals for two fiscal years ending June 30, 1910	$63,144 00	$48,000 00	$111,114 00
	Transferred prior to June 30, 1908	486,735 00	370,000 00	856,735 00
	Totals	$549,879 00	$418,000 00	$967,879 00

NOTE.—Bonds were issued in 1893 for the construction of San Francisco Depot and Ferry House to the amount of $600,000. The bonds will expire in 1912, and amounts have been paid upon them as shown in the table above.

Statement of Deferred Payment Draft Account for the two fiscal years from July 1, 1908, to June 30, 1910.

I. DRAFTS MATURED AND PAID.

Date of payment.	Draft No.	To whom paid.	Amount.	Total.
1908.				
July	271	Southern Pacific Co.	$763 87	
July	245	Robert Greig	1,194 00	
July	309	Gray Bros.	5,609 55	
				$7,567 42
August	291	Healy, Tibbitts & Co.	$1,596 83	
August	352	Healy, Tibbitts & Co.	4,591 52	
				6,188 35
September	329	Pacific Construction Co.	$2,988 92	
				2,988 92
October	310	Gray Bros.	$5,609 55	
October	246	Robert Greig	1,194 00	
October	272	Southern Pacific Co.	763 87	
				7,567 42
November	292	Healy, Tibbitts & Co.	$1,596 83	
November	353	Healy, Tibbitts & Co.	4,591 52	
November	330	Pacific Construction Co.	2,988 92	
				9,177 27
1909.				
January	247	Robert Greig	$1,194 00	
January	311	Gray Bros.	5,609 55	
January	273	Southern Pacific Co.	763 88	
				7,567 43
February	293	Healy, Tibbitts & Co.	$1,596 83	
February	354	Healy, Tibbitts & Co.	4,591 52	
February	331	Pacific Construction Co.	2,988 92	
				9,177 27
April	248	Robert Greig	$1,194 00	
April	274	Southern Pacific Co.	763 88	
April	312	Gray Bros.	5,609 55	
				7,567 43
May	294	Healy, Tibbitts & Co.	$1,596 83	
May	355	Healy, Tibbitts & Co.	4,591 52	
May	332	Pacific Construction Co.	2,988 92	
				9,177 27
July	249	Robert Greig	$1,194 00	
July	313	Gray Bros.	5,609 55	
				6,803 55
August	295	Healy, Tibbitts & Co.	$1,596 83	
August	275	Southern Pacific Co.	763 88	
August	356	Healy, Tibbitts & Co.	4,591 52	
August	333	Pacific Construction Co.	2,988 92	
				9,941 15
October	276	Southern Pacific Co.	$763 88	
October	314	Gray Bros.	5,609 55	
				6,373 43
November	296	Healy, Tibbitts & Co.	$1,596 83	
November	357	Healy, Tibbitts & Co.	4,591 52	
November	334	Pacific Construction Co.	2,988 92	
				9,177 27
1910.				
January	315	Gray Bros.	$5,609 55	
				5,609 55
February	358	Healy, Tibbitts & Co.	$4,591 52	
February	335	Pacific Construction Co.	2 988 92	
				7,580 44
April	316	Gray Bros.	$5,609 55	
				5,609 55
May	359	Healy, Tibbitts & Co.	$4,591 52	
May	336	Pacific Construction Co.	2,988 92	
				7,580 44
		Total		$125,654 16

Statement of Deferred Payment Draft Account—*Continued.*

II. DRAFTS OUTSTANDING JUNE 30, 1910.

Date issued.	Draft No.	Issued to—	Date payable.	Account.	Amount.
Feb. 19, 1906	360	Healy, Tibbitts & Co.	Aug. 15, 1910	Const'g pier No. 13	$4,591 52
Feb. 19, 1906	361	Healy, Tibbitts & Co.	Nov. 15, 1910	Const'g pier No. 13	4,591 52
Feb. 19, 1906	362	Healy, Tibbitts & Co.	Feb. 15, 1911	Const'g pier No. 13	4,591 52
		Total			$13,774 56

Cost of completed Seawall.

Section.	Length in feet.	Cost per lineal foot.	Total cost.
Section B, constructed in 1890-93	1,000	$114 60	$114,601 18
Section A, constructed in 1879-80	561	152 61	85,614 53
Section 1, constructed in 1878-79	1,000	165 63	165,631 40
Section 2, constructed in 1879-80	1,000	167 50	167,504 09
Section 3, constructed in 1879-81	1,000	235 50	235,049 51
Section 4, constructed in 1880-82	1,000	240 87	240,872 01
Section 5, constructed in 1883-84	1,000	169 89	169,893 57
Section 6, constructed in 1885-86	800	158 47	126,779 73
Section 7, constructed in 1887-89	1.000	109 32	109,327 99
Section 8, constructed in 1910	300	266 67	80,000 00
Section 8*b*, constructed in 1888-90	450	248 50	111,629 12
Section 8*a*, constructed in 1891-93	389.5	220 82	86,008 09
Section 11, constructed in 1909-10	600	141 85	*85,108 63
Section 12, constructed in 1907-08	1,000	97 25	97,249 95
Section 13, constructed in 1904-05	600	233 73	140,238 71
Totals	11,700.5	Av., $172 27	$2,015,508 51
In addition to the above amount of seawall constructed, there is approximately 800 feet of seawall breakwater at Fisherman's Wharf. These breakwaters were constructed in 1900-01 at a cost as follows:	800	$19 58	$15,665 54

* Subject to modification as a result of litigation pending June 30, 1910, with Gray Bros.

Cost of Dredging per hour.

	Year ending June 30, 1909.	Year ending June 30, 1910.	Percentage of decrease.
Labor	$8 68	$8 67	0
Repairs	4 00	2 21	44.75%
Fuel	2 40	1 50	37.50%
Miscellaneous supplies, towing, etc.	2 13	1 69	20.65%
Total	$17 21	$14 07	18.24%

Statement of Cost of Dredging, by years, commencing June 30, 1875.

Fiscal year ending—	Salaries of employees.	Repairs.	Fuel.	Ship chandlery, water, etc.	Miscellaneous, including docking, dredgers, towing, etc.	Total.	Number of yards dredged.	Number of hours worked.	Cost per cubic yard, cents.
June 30, 1875	$11,663 97	$10,362 99	$8,639 00	$1,386 64	$1,301 25	$33,835 71	303,429	2,348¾	10.76
June 30, 1876	11,932 98	7,639 43	8,224 04	1,660 85	1,905 74	31,363 19	342,638	2,634	9.15
June 30, 1877	11,980 99	4,041 44	5,971 71	1,582 10	1,676 79	25,253 03	280,197	2,478½	9.01
June 30, 1878	17,188 80	7,372 48	7,754 86	2,666 37	3,032 55	38,214 40	423,654	3,080	9.02
June 30, 1879	26,201 70	14,963 90	11,755 12	5,443 70	1,289 60	60,454 68	843,879	4,694	7.16
June 30, 1880	27,202 59	8,824 19	11,115 11	4,184 65	318 75	51,645 29	749,011	4,323	6.89
June 30, 1881	25,948 49	10,196 63	11,037 15	4,194 44	85 81	51,462 52	732,919	3,962½	7.02
June 30, 1882	25,860 00	9,556 57	8,925 33	4,101 10	300 45	48,743 45	639,570	3,639½	7.62
June 30, 1883	25,860 01	12,152 06	9,093 05	3,800 58	551 80	51,457 50	635,322	3,776½	8.13
June 30, 1884	26,358 00	20,906 35	9,838 60	3,627 45	50 00	60,780 40	643,100	3,663½	9.45
June 30, 1885	26,896 24	11,610 58	10,074 34	3,657 64	20 00	52,258 80	680,700	3,652½	7.68
June 30, 1886	26,634 65	6,293 18	9,886 55	3,841 02	20 00	46,675 40	678,900	3,758½	6.87
June 30, 1887	26,520 00	36,872 40	7,911 49	4,435 62	2,307 48	78,046 99	601,800	3,175½	12.97
June 30, 1888	27,787 00	10,264 87	11,339 27	4,154 26	537 30	54,082 70	717,600	3,797½	7.52
June 30, 1889	27,847 00	21,004 76	9,392 65	3,292 77	887 78	62,424 96	536,800	3,010	11.62
June 30, 1890	27,825 87	10,403 04	9,377 93	3,671 54	310 53	51,588 91	645,300	3,298	7.99
June 30, 1891	28,112 45	8,919 66	10,163 75	3,735 55	2,299 40	53,230 81	569,300	3,206½	9.35
June 30, 1892	28,151 00	14,121 49	9,545 08	3,736 01	528 12	56,081 70	522,400	3,568	10.73
June 30, 1893	27,655 72	12,858 62	8,596 79	3,533 20	1,362 00	54,006 33	641,400	3,127	8.44
June 30, 1894	28,350 30	17,505 81	8,931 46	3,099 10	471 00	58,357 67	677,200	3,743½	8.75
June 30, 1895	28,516 20	39,226 19	7,959 10	3,683 94	279 00	79,664 43	537,400	2,751	14.823
June 30, 1896	28,493 81	14,132 13	8,713 25	5,208 95	90 88	56,639 02	657,300	3,055	8.617
June 30, 1897	28,515 00	16,519 35	7,118 87	3,411 09	122 00	55,686 31	691,600	3,229	8.051
June 30, 1898	28,910 90	13,611 64	6,986 15	4,550 97	219 15	54,278 81	645,600	2,917	8.407
June 30, 1899	30,967 00	12,490 49	5,874 71	4,559 31	211 40	54,102 91	671,800	2,864	8.053
June 30, 1900	29,319 35	21,239 27	6,808 50	2,985 72	240 95	60,593 79	670,700	2,903	9.034
June 30, 1901	27,720 40	8,332 02	7,603 23	2,480 59	30 00	46,166 24	794,800	3,521½	5.808
June 30, 1902	32,012 05	15,679 90	8,256 21	3,329 91	216 80	59,494 87	810,400	3,808	7.341
June 30, 1903	34,260 50	12,359 60	8,816 91	3,359 58	77 40	58,873 99	856,900	4,367	6.87
June 30, 1904	38,727 10	51,693 10	10,473 26	6,078 04	62 85	107,034 35	1,046,240	4,722	10.23
June 30, 1905	40,043 65	79,291 18	9,134 75	5,113 00	2,287 50	135,870 08	1,159,250	4,993	11.72
June 30, 1906	38,015 70	12,574 12	7,004 74	4,401 56	90 00	62,086 12	924,900	4,389	6.71
June 30, 1907	41,446 40	12,251 50	9,457 34	6,646 18	90 00	69,891 42	1,056,700	4,882	6.61
June 30, 1908	40,656 30	21,218 48	12,159 39	6,709 82	782 00	81,525 99	900,500	4,364	9.053
June 30, 1909	58,894 70	27,119 36	16,308 67	10,471 82	3,995 00	116,789 55	1,456,950	6,785	8.016
June 30, 1910	64,715 09	16,509 51	11,158 28	12,636 74	----------	105,019 62	1,536,250	7,464	6.836

Financial Statement of the Belt Railroad from 1891 to June 30, 1910.

Fiscal year ending June 30.	Disbursements.				Revenue.			
	Construction and equipment.	Maintenance and operation.		Total.	Construction.	Sale of old material.	Switching cars.	Total.
1891	$327 61			$327 61				
1892	74,188 90	$7,118 56		81,307 46			$4,580 75	$4,580 75
1893	4,496 68	11,436 42		15,933 10			12,039 00	12,039 00
1894	50 69	14,592 94		14,643 63			10,775 25	10,775 25
1895	11,587 38	19,167 88		30,755 26			10.118 75	10,118 75
1896		15.189 01		15,189 01		$5,934 25	11,730 00	17,664 25
1897		11,422 57		11.422 57			11,619 25	11,619 25
1898		18,458 63		18,458 63			13,313 50	13,313 50
1899		25,539 38		25,539 38			17,090 25	17,090 25
1900		37,476 81		37,476 81			19,402 25	19,402 25
1901	37,519 31	38,827 27		76,346 58			27,477 00	27,477 00
1902	19,314 90	48,001 86		67,316 76			38,992 53	38,992 53
1903	14,242 48	43,408 15		57,650 63	$62 27		47,266 20	47,328 47
1904	11,054 72	69,289 04		80,343 76			71,924 12	71,924 12
1905	300 00	70,761 93		71,061 93		132 50	79,673 75	79,806 25
1906		66,823 39		66,823 39		219 69	77,787 25	78,006 94
		Maintenance.	Operation.					
1907		$35,871 89	$45,456 72	81,328 61		10 00	89,971 00	89,981 00
1908	15.373 00	75,880 20	51,183 87	142,437 07		3,116 50	113,565 00	116,681 50
1909		50,096 88	33,514 71	83,611 59			131,116 00	131,116 00
1910	44,422 87	47,871 98	40,463 53	132,758 38			131,453 00	131,453 00
Totals	$232,878 54	$877,853 62		$1,110,732 16	$62 27	$9,412 94	$919,894 85	$929,370 06

Comparative Table of Receipts of four representative seaports with Publicly owned Wharves.

Year.	Port.	Source.	Amount.
1908-09	San Francisco	Dockage, tolls, rents, etc.	$1,367,239 98
1907-08	New Orleans	Wharfage, harbor dues, etc.	441,854 45
1907	New York	Rents, ferries, etc.	4,771,563 31
1908	Montreal	Wharfage, rents, etc.	386,867 28

Expenditures at Typical Foreign Seaports for Harbor Improvements.

The following is a comparative statement of the sums expended at San Francisco and at various typical foreign seaports for harbor improvements in recent years :

Port.	Period.	Years.	Amount expended.
Havre, France	1900-1910	10	$17,000,000
Rotterdam, Holland	1870-1908	38	30,827,062
Hamburg, Germany	1880-1908	28	100,000,000
Bristol, England	1848-1908	60	25,000,000
Glasgow, Scotland	1858-1907	49	44,000,000
The Tyne ports, England	1850-1908	58	85,000,000
Manchester, England	1885-1908	23	83,000,000
San Francisco	1863-1910	47	14,229,198

Indebtedness, in 1908, of five typical Seaports with Publicly owned Docks.

Port.	Indebtedness for harbor improvements.
Sydney, N. S. W.	$25,352,696
Montreal, Canada	12,027,000
Wellington, N. Z.	8,972,500
New Orleans, La. (mortgage bonds)	2,000,000
San Francisco	1,171,151

NOTE.—The indebtedness of San Francisco is the sum of the seawall bonds sold during the calendar year of 1908, less the payments made upon them prior to July 1, 1908; the balance due July 1, 1908, upon the depot bonds; the balance due upon loan from State and the deferred payment drafts outstanding on July 1, 1908.

Rates of Towage for the Port of San Francisco.

(The Board of State Harbor Commissioners has no jurisdiction over towage charges, which are fixed by the towboat owners.)

TONNAGE OF VESSELS.

	350 to 450	450 to 550	550 to 650	650 to 750	750 to 850	850 to 950	950 to 1,050
Stream to city front	$12 50	$12 50	$15 00	$15 00	$17 50	$20 00	$20 00
Stream to Oakland wharf or refinery	15 00	15 00	20 00	20 00	22 50	25 00	25 00
Stream to Oakland creek	22 50	25 00	30 00	30 00	35 00	40 00	40 00
Stream to sea with hawser	30 00	35 00	40 00	45 00	50 00	55 00	55 00
Stream to Point Richmond	25 00	30 00	35 00	37 50	40 00	42 50	45 00
Stream to Point San Pablo	30 00	35 00	37 50	40 00	42 50	45 00	47 50
Stream to Port Costa	45 00	50 00	52 50	55 00	57 50	62 50	65 00
Extra to lightship	20 00	25 00	25 00	25 00	25 00	25 00	25 00

	1,050 to 1,150	1,150 to 1,250	1,250 to 1,350	1,350 to 1,459	1,450 to 1,550	1,550 to 1,600	1,650 to 1,800
Stream to city front	$22 50	$22 50	$25 00	$25 00	$25 00	$25 00	$25 00
Stream to Oakland wharf or refinery	27 50	27 50	30 00	30 00	35 00	35 00	35 00
Stream to Oakland creek	45 00	45 00	45 00	50 00	50 00	55 00	55 00
Stream to sea with hawser	55 00	60 00	60 00	65 00	65 00	65 00	70 00
Stream to Point Richmond	47 50	47 50	50 00	50 00	55 00	55 00	60 00
Stream to Point San Pablo	50 00	50 00	55 00	55 00	60 00	60 00	65 00
Stream to Port Costa	67 50	70 00	72 50	72 50	75 00	80 00	85 00
Extra to lightship	25 00	25 00	25 00	25 00	25 00	25 00	25 00

Oakland creek to sea direct pays Oakland creek towage and sea towage, less $5.00.
Port Costa to sea direct pays Port Costa towage and sea towage, less $10.00.

Pilot Charges at San Francisco.

(The State Board of Harbor Commissioners has no jurisdiction over pilot charges, which are fixed by act of legislature, Political Code, article VI, par. 2466.)

All vessels under 500 net tons	$3 per foot draft.
All vessels over 500 net tons	$3 per foot draft and 3 cents for every ton.

These rates are compulsory and must be paid by every vessel spoken, inward or outward bound, except vessels under enrollment and licensed and engaged in the coasting trade between San Francisco and other United States ports, and vessels engaged in the whaling and fishing trades, which shall be exempt from all pilotage unless a pilot is actually employed. In all cases where inward-bound vessels are not spoken until inside the bar, the rates are reduced one half.

Work under way at date of last Biennial Report and since finished.

No...	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.	Date of completion.
14	Electric current for lighting the Union Depot and Ferry House, and other buildings, wharves, streets, etc., within the jurisdiction of the Board of State Harbor Commissioners.*	Mutual Electric Light Co.	July 1,'07	Arc lights of 2,000 c. p., at the rate of $1.30 per week each, the same to burn from sunset to sunrise each and every night during the seven days of each week. $0.0294 per 1,000 watt hours for electric current for incandescent lighting, including the furnishing of incandescent arc lamps, trimming and keeping the same in order.	July 27,'07	$1,415 09		
					Aug. 16,'07	1,490 03		
					Sept. 23,'07	1,487 92		
					Nov. 25,'07	3,277 64		
					Dec. 20,'07	1,784 85		
					Jan. 21,'08	2,027 09		
					Feb. 25,'08	2,023 14		
					Mar. 21,'08	1,841 79		
					Apr. 22,'08	1,758 48		
					May 22,'08	1,808 43		
					June 23,'08	2,197 20		
					July 18,'08	1,709 10		
					Aug. 21,'08	1,788 14		
					Sept. 25,'08	1,891 09		
					Oct. 23,'08	1,889 01		
					Nov. 21,'08	2,057 57		
					Dec. 19,'08	2,006 19		
					Jan. 25,'09	2,256 01		
					Feb. 18,'09	2,123 23		
					Mar. 19,'09	1,760 62		
					Apr. 16,'09	1,802 38		
					May 21,'09	1,631 90		
					June 21,'09	1,727 38		
					July 15,'09	1,559 49		
					Aug. 20,'09	1,659 70		
					Sept. 10,'09	1,703 30		
					Oct. 23,'09	1,692 42		
					Nov. 19,'09	2,069 85		
					Dec. 27,'09	1,967 03		
					Jan. 22,'10	2,153 16		
					Feb. 18,'10	1,939 38		
					Mar. 18,'10	1,773 64		
					Apr. 22,'10	1,986 06		
					May 20,'10	1,737 37		
					June 18,'10	1,770 32	$65,765 00	June 30,'10
29	Supply lumber to the Board of State Harbor Commissioners for one year.	Hickman & Masterson ..	Nov. 1,'07	$15.75 per M feet B. M. Cartage $1.00 per M feet, B. M., additional.	Dec. 20,'07	$3,255 97		
					Jan. 21,'08	3,195 04		
					Feb. 25,'08	3,461 60		
					Mar. 21,'08	3,259 51		
					Apr. 22,'08	5,631 46		

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*NOTE.—This contract was completed June 30, 1910, but payment for current consumed during the month of June, 1910, was not paid until July 28, 1910, same amounting to $1,639 50, making total amount of contract $67,404 50.

Work under way at date of last Biennial Report and since finished—*Continued.*

No...	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amount.	Total.	Date of completion.
29	Supply lumber to the Board of State Harbor Commissioners for one year.	Hickman & Masterson			May 22,'08 June 20,'08 July 18,'08 Aug. 21,'08 Sept. 25,'08 Oct. 23,'08 Nov. 21,'08	$6,013 40 1,754 74 1,171 42 2,154 63 2,091 72 2,301 44 1,668 61	$35,959 54	Nov. 1,'08
51	Construction of freight shed on seawall lot No. 11.†	Fann & Hood	Apr. 16,'08	$2,905 00	June 26,'08 July 31,'08	$2,178 75 726 25	2,905 00	June 26,'08
52	Purchase old lumber from Board of State Harbor Commissioners.	G. A. Love	Apr. 20,'08	$2.25 per M feet B. M.	See "Credit	Contract"	No. 52.	
53	Furnish materials and repave East street east of the United Railroads tracks between Washington and Clay streets.‡	Eureka Construction Co.	Apr. 20,'08	$0.08 per sq. ft. for taking up present pavement, preparing roadbed and repave with taken up blocks; $0.25 per lin. ft. for taking up old curb, raising existing drains and cesspools to proper grade, and reset taken up curbing. Furnish and construct each new catch basin for cost plus 10 per cent. Furnish and lay 10-inch stone sewer pipe for cost plus 10 per cent.	May 29,'08 July 8,'08	$2,016 06 672 02	2,688 08	May 29,'08
54	Furnish all labor and the necessary fastenings for placing stringers, planking and curbing along section 12 of the seawall.§	Mercer-Fraser Co.	June 11,'08	$849 00	June 29,'08 Aug. 14,'08	$636 75 212 25	849 00	June 25,'08
55	Furnishing, delivering and placing 800 tons, more or less, of rock for raising the southerly end of the breakwater at Fisherman Wharf.	San Francisco Bay Improvement Company.	June 18,'08	$0.98 per ton of 2,000 lbs.	July 8,'08 Aug. 14,'08	$591 77 197 25	789 02	July 2,'08

†NOTE.—Contract completed June 26, 1908; 25 per cent of total amount of contract retained for 35 days.

‡NOTE.—Contract completed May 29, 1908; 25 per cent of total amount of contract retained for 35 days.

§NOTE.—Contract completed June 25, 1908; 25 per cent of total amount retained for 35 days.

Work contracted for and completed within the Biennial Term, July 1, 1908 to June 30, 1910.

No...	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.	Date of completion.
56	Cleaning East street	San Francisco Teaming Co.	July 1,'08	$0.80 per 1,000 sq. yds. on districts 1, 2, 3, 4, 6, 7, 8. $1.00 per 1,000 sq. yds. on district 5.	Aug. 21,'08 Sept. 25,'08 Oct. 23,'08 Nov. 21,'08 Dec. 19,'08 Jan. 25,'09 Feb. 18,'09 Mar. 19,'09 Apr. 27,'09 May 21,'09 June 21,'09 July 15,'09	$1,576 83 1,515 79 1,347 20 1,424 96 1,153 55 1,129 28 704 37 581 97 1,280 31 1,623 91 1,566 92 1,600 29	$15,505 38	June 30,'09
57	Repairs to tug "Governor Irwin"	Moore & Scott Iron Works	July 2,'08	$1,575 00	Aug. 21,'08	$1,575 00	1,575 00	July 20,08
58	Furnishing and installing electric light plant on dredger No. 3.	Herzog & Dahl	July 16,'08	1,245 00	Aug. 28,'08 Oct. 2,'08	933 75 311 25	1,245 00	Aug. 27,'08
59	Furnishing and installing one electric light plant on each of the State tow boats "Governor Markham" and "Governor Irwin."	Herzog & Dahl	July 16,'08	2,750 00	Aug. 28,'08 Oct. 2,'08	$2,062 50 687 50	2,750 00	Aug. 27,'08
60	Removing present roof, and constructing new roof for Belt Railroad roundhouse.	Conlin & Roberts	July 16,'08	645 00	Aug. 21,'08 Sept. 28,'08	$483 75 161 25	645 00	Aug. 20,'08
61	Construction of shed over Pier No. 3 (Washington-street Wharf).	W. A. Fann	July 16,'08	6,175 55	Aug. 14,'08 Sept. 5,'08 Sept. 14,'08 Oct. 17,'08	$1,762 50 2,406 00 463 16 1.543 89	6,175 55	Sept. 10,'08
62	Repairs to bucket of dredger No. 3	Stockton Iron Works	July 16,'08	684 40	Sept. 5,'08 Oct. 12,'08	$513 30 171 10	684 40	Sept. 3,'08
63	Dredging a part of Channel street*	J. S. McAnany	July 30,'08	$27,250.00 and a unit price of 9c. per cubic yard to apply in case of increase or diminution of work.	Sept. 5,'08 Nov. 25,'08 Jan. 23,'09 July 9,'09 Aug. 3,'09 Aug. 12,'09	$2,043 75 6,744 37 6,540 00 5,109 38 7,500 00 6,812 50	34,750 00	July 8,'09

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* Additional dredging $7,500.00 of which amount the Southern Pacific Co. paid half.

Work contracted for and completed within the Biennial Term.—*Continued.*

No.	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.	Date of completion
64	Furnishing materials and repaving East street, between Washington and Vallejo streets.	Eureka Construction Co.	July 30,'08	7c. per sq. ft. for repaving with taken up blocks. $1.94 for new curb in place. 22c. per lin. ft. for setting old curb to grade. $65 for each new cesspool. 27c. per sq. ft. for new paving.	Aug. 28,'08	$3,612 75	$24,967 29	Nov. 25,'08
					Oct. 1,'08	4,369 84		
					Nov. 6,'08	6,048 85		
					Nov. 25,'08	4,694 03		
					Dec. 31,'08	6,241 82		
[illegible]	Labor and material (except cement) for reinforcing standard piles at Fisherman Wharf.	Healy-Tibbitts Construction Co.	Aug. 10,'08	$1.78 per lineal foot	Nov. 6,'08	$1,467 72	5,290 29	Nov. 5,'08
					Nov. 25,'08	2,500 00		
					Dec. 11,'08	489 24		
					Dec 31,'08	833 33		
66	Labor and material for constructing an end cross embankment joining the northerly end of section 12 of the seawall.	Healy-Tibbitts Construction Co.	Aug. 10,'08	$0.54 9-10 per ton of 2,000 lbs.	Sept. 5,'08	$1,741 85	3,754 77	Oct. 8,'08
					Oct. 12,'08	1,074 23		
					Nov. 13,'08	938 69		
67	Construction of pier 40†	Robert Wakefield	Aug. 17,'08	$302,400 00	Oct. 23,'08	$11,340 00	303,200 00	June 26,'09
					Nov. 25,'08	34,020 00		
					Dec. 24,'08	61,236 00		
					Feb. 25,'09	47,628 00		
					Mar. 26,'09	15,876 00		
					Apr. 29,'09	34,020 00		
					May 27,'09	11,340 00		
					July 1,'09	11,940 00		
					Aug 5,'09	75,800 00		
68	Paving East street in the vicinity of piers 42 and 44, and parts of Berry and King streets.	Eureka Construction Co.	Sept. 3,'08	1. 24¼c. per sq. ft. for furnishing and paving with new basalt blocks. 2. $1.98 per lineal foot for furnishing and setting granite curbing. 3. 20c. per lineal foot for furnishing and setting redwood curbing. 4. $50 for furnishing and constructing each cesspool. 5. $45 for furnishing and constructing each drain. 6. 75c. per lineal foot furnishing and laying 10-inch stone sewer pipe.	Oct. 30,'08	$2,028 75	27,707 30	Jan. 14,'09
					Nov. 25,'08	7,077 79		
					Dec. 31,'09	10,726 29		
					Jan. 14,'09	947 64		
					Feb. 18,'09	6,926 83		

69	Laying asphalt pavement on bulkhead north of Chief Wharfinger's office.	Flinn & Treacy		8½c. per sq. foot	Oct. 30,'09 Dec. 4,'09	$495 79 165 26	561 05	Oct. 30,'09
70	Alterations on ground floor of the south wing of the Ferry Building.	McLaughlin & Walsh		$3,950 00	Nov. 25,'08 Dec. 23,'08 Jan. 25,'09 Feb. 25,'09	$740 62 740 63 1,481 25 987 50	3,950 00	Jan. 21,'09
71	Furnish all labor and material and repair shingle roofs on property of the State of California under the jurisdiction of the Board.	R. L. Kalloch Co.	Sept. 24, '08	1. Furnish and lay each square for $4.97. 2. Refasten each 1,000 old shingles for $1.38. 3 Furnish and fasten each 1,000 feet of roof boards for $32.50.	Oct. 17,'08 Oct. 30,'08 Nov. 21,'08 Dec. 4,'08 Dec. 4,'08 Jan. 11,'09 Feb. 11,'09 Mar. 8,'09 Apr. 9,'09 Nov. 12,'09 Dec. 23,'09 Jan. 7,'10	$676 82 2,837 67 225 61 2,479 39 945 89 826 46 2,599 21 116 80 38 93 199 14 66 38 55 98	11,068 28	Dec. 31,'09
72	Lay concrete foundation under walk across East street.	C. S. Harney	Sept. 24, '08	7¼c. per square foot	July 1,'09	$226 69	226 69	Jan. 28,'09
73	Alterations of postoffice quarters in the Ferry Postoffice Building.	W. A. Fann	Oct. 1, '08	$1,248 00	Nov. 13,'08 Dec. 19,'08	$936 00 312 00	1,248 00	Nov. 12,'08
74	Construction of a bulkhead wharf along section 12 of the seawall*.	Pacific Construction Co.		64,500 00 Additional 10,000 00	Nov. 25,'08 Dec. 24,'08 Jan. 23,'09 Feb. 25,'09 Mar. 26,'09 Apr. 22,'09 May 6,'10	$6,046 87 12,578 13 10,430 00 7,263 75 8,006 25 14,775 00 12,275 00	71,375 00	Mar. 18,'09
75	Repiling and repairing the several wharves, piers, bulkhead, and ferry slips under the control of the Board.	Thomson Bridge Co.	Oct. 8, '08		Nov. 20,'08 Dec. 11,'08 Jan. 14,'09 Feb. 8,'09 Mar. 12,'09 Mar. 12,'09 Apr. 9,'09 May 7,'09 June 3,'09 July 9,'09 July 15,'09 Aug. 7,'09 Sept. 8,'09 Oct 8,'09 Nov. 19,'09	$2,701 11 3,786 63 6,395 19 6,372 91 6,026 99 130 00 10,208 11 7,832 10 6,249 45 10,441 91 862 12 8,305 14 11,624 67 5,221 03 1,769 12	87,926 48	Oct. 12,'09

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* Penalty exacted—58 days at $50 per day, $2,900. Also, $225 retained for asphalt wearing surface not laid between railroad tracks to allow for settlement.
† Bonus paid 8 days at $100 per day, $800.

Work contracted for and completed within the Biennial Term—*Continued.*

No...	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.	Date of completion.
78	Construction of two freight chutes on pier No. 10 (Howard-street Wharf No. 3).	Hyde, Harjes & Co.	Nov. 12,'08	$287 00	Dec. 4,'08	$287 00	$287 00	Dec. 3,'08
79	Alterations on ground floor north wing of the Union Depot and Ferry House.*	M. M. Finlayson	Nov. 12,'08	23,623 00	Dec. 4,'08	$3,543 45		
					Jan. 11,'09	9,744 49		
					Feb. 18,'09	3,543 45		
					Mar. 26,'09	685 86		
					Apr. 29,'09	5,905 75	23,423 00	Mar. 25,'09
80	Furnishing and delivering rock for the construction of section 11 of the seawall.**	Gray Bros. Crushed Rock Co.	Nov. 25,'08	69½c per short ton	Mar. 8,'09	$820 57		
					Apr. 9,'09	1,592 37		
					May 7,'09	1,281 42		
					June 4,'09	2,207 94	5,902 30	
81	Furnish labor and material and construct a Chief Wharfinger's office at the foot of Clay street.***	Frank Gallagher	Dec. 3,'08	3,489 00	Jan. 11,'09	$785 02		
					Mar. 26,'09	1,796 73		
					Apr. 29,'09	872 25		
					Apr. 1,'09	45 00	(extras) 3,499 00	Mar. 25,'09
82	Removing portions of Beale and Brannan-street wharves.	Healy-Tibbitts Construction Co.	Dec. 10,'08	1,390 00	Jan. 14,'09	$1,042 50		
					Feb. 18,'09	347 50	1,390 00	Jan. 14,'09
83	Construction of a wharf along Illinois street, south of Santa Clara street, in Central Basin.†	Mercer-Fraser Company	Dec. 31,'08	57,741 00	Mar. 26,'09	$6,062 80		
					Apr. 29,'09	1,702 24		
					May 27,'09	9,527 26		
					July 1,'09	12,991 72		
					Aug. 12,'09	6,495 87		
					Sept. 23,'09	4,330 57		
					Dec. 30,'09	565 29		
					Feb. 3,'10	14,435 25	56,141 00	Dec. 30,'09
84	Construction of a concrete bulkhead and office foundation at pier No. 5‡	Healy-Tibbitts Construction Co.	Feb. 4,'09	960 00	Apr. 29,'09	$720 00		
					Apr. 29,'09	854 79	(extras)	
					June 4,'09	240 00	1,814 79	Apr. 29,'09
85	Construction of pier No. 38§	Healy-Tibbitts Construction Co.	Nov. 25,'08	279,000 00	Apr. 29,'09	$31,387 50		
					May 29,'09	48,127 50		
					July 1,'09	66,960 00		
					July 29,'09	31,387 50		
					Sept. 2,'09	20,925 00		
					Sept. 16,'09	17,662 50		
					Oct. 22,'09	72,150 00	288,600 00	Sept. 8,'09
86	Construction of office buildings under sheds on piers 42 and 44.	W. L. Graff	Feb. 25,'09	2,894 00	Mar. 8,'09	$651 15		
					Apr. 1,'09	1,519 35		
					May 7,'09	723 50	2,894 00	Apr. 1,'09

87	Furnishing and installing two hot water heating plants in the offices on piers 42 and 44.	John G. Sutton Co.	Feb. 25,'09	1,080 00	Apr. 29,'09	$810 00		
					June 4,'09	270 00	1,080 00	Apr. 29,'09
89	Construction of shed on pier No. 8 (Howard-street Wharf No. 2).	J. I. Mitrovich	Mar. 4,'09	750 00	Apr. 29,'09	$562 50		
					June 4,'09	187 50	750 00	Apr. 29,'09
90	Construction of pier No. 36‖	Associated Contracting Co.	Apr. 15,'09	364,000 00	July 1,'09	$13,650 00		
					July 29,'09	54,600 00		
					Sept 2,'09	81,900 00		
					Sept. 30,'09	27,300 00		
					Oct. 28,'09	27,300 00		
					Dec. 2,'09	27,300 00		
					Dec. 30,'09	27,300 00		
					Feb. 3,'10	15,862 50		
					Feb. 18,'10	769 81	(extras)	
					Feb. 18,'10	300 00	(changes)	
					Mar. 3,'10	85,319 00		
					May 6,'10	6,418 50	368,019 81	Feb. 3,'10
91	Furnishing steel beams for section 7 of the seawall.	Judson Manufacturing Co.	Apr. 29,'09	$1,540 00	Aug. 20,'09	$1,155 00		
					Sept. 23,'09	385 00	1,540 00	Aug. 19,'09
92	Construction of a shed over pier No. 21 (Filbert-street Wharf).	W. L. Graff	May 6,'09	12,843 00 Plus 5,232 15 for 165 ft. extension.	May 27,'09	$1,926 45		
					June 17,'09	4,816 12		
					July 15,'09	2,408 07		
					Aug. 12,'09	481 61		
					Sept. 16,'09	3,210 75		
					Aug. 20,'09	2,354 47		
					Sept. 16,'09	1,569 64		
					Oct. 22,'09	1,308 04	18,075 15	Sept. 16,'09
94	Furnishing and installing an ornamental iron fence in the Southern Pacific Co.'s and Key Route waiting rooms.	Ralston Iron Works	May 13,'09	1,515 00	July 1,'09	$1,136 25		
					Aug. 20,'09	378 75	1,515 00	July 1,'09
95	Furnishing eucalyptus piles	N. H. Hickman	May 20,'09	20c. per lin. ft. for 12 in. 21c. per lin. ft. for 13 in. 22c. per lin. ft. for 14 in. 23c. per lin. ft. for 15 in. 24c. per lin. ft. for 16 in.	June 21,'09	$2,402 07		
					July 30,'09	2,834 82		
					Aug. 20,'09	5,303 90		
					Sept. 16,'09	6,431 53		
					Oct. 23,'09	704 18	17,676 50	Oct. 23,'09

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* Bonus paid—4 days at $50 per day, $200.

** Contract canceled June 10, 1909, on account of failure to complete contract within time specified. See Contract 104 for completion. Suit instituted against Gray Bros. Crushed Rock Co. and bondsmen for damages. See report of Attorney.

*** Penalty exacted—3½ days at $10 per day, $35.

† $1,600 retained because contractor was unable to coat 70 piles on account of insufficient dredging.

‡ Extra work not included in specifications ordered done amounting to $854.79.

§ Bonus paid—96 days at $100 per day, $9,600.

‖ Bonus paid—29½ days at $100 per day, $2,950.

Work contracted for and completed within the Biennial Term.—*Continued.*

No.	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.	Date of completion.
97	Construction of section 8 of seawall	American Construction Co. (assigned to Associated Contracting Co., June 17, 1909).	June 17,'09	$80,000 00	Dec. 30,'09	$15,000 00		
					Jan. 27,'10	7,500 00		
					Feb. 24,'10	28,000 00		
					Mar. 10,'10	9,000 00		
					Mar. 18,'10	9,079 70	(extra rock)	
					Mar. 18,'10	300 00	(false work)	
					Apr. 14,'10	3,589 36	(extra rock)	
					Apr. 14,'10	20,009 00	$92,969 06	Mar. 10,'10
98	Cover with reinforced concrete such standard and mooring piles as the Board may direct for a period of one year.	Mercer-Fraser Co.	June 24,'09	$1.55 per lin. ft.	Feb. 18,'10	$1,854 48		
					Mar. 24,'10	618 16	2,472 64	June 21,'10
99	Repairing clam shell bucket for dredger No. 3.	Union Iron Works	June 24,'09	696 00	Aug. 20,'09	$522 00		
					Sept. 23,'09	174 00	696 00	Aug. 19,'09
100	Furnish one four-yard dredger bucket for dredger No. 3.	Stockton Iron Works	July 1,'09	1,890 00	Oct. 22,'09	$1,890 00	1,890 00	Oct. 5,'09
101	Paving a portion of seawall lot No. 8	H. B. Mayo	Contract canceled November 11, 1909.					
102	Furnishing ornamental iron ticket taker booths for Southern Pacific and Key Route waiting rooms.	Guilfoy Cornice Works	July 1,'09	$94.00 per booth	Oct. 15,'09	$916 50		
					Nov, 19,'09	305 50	1,222 00	Oct. 14,'09
104	Furnish and deliver stone for the completion of section 11 of the seawall.	Healy-Tibbitts Construction Co.	July 8,'09	$1.045 per ton of 2,000 lbs. for rock delivered in core. $1.48 per ton of 2,000 lbs. for rock delivered on slope.	Aug. 5,'09	$16,523 55		
					Sept. 2,'09	23,389 00		
					Sept. 30,'09	14,533 08		
					Oct. 28,'09	4,959 12		
					Dec. 2,'09	19,801 58	79,206 33	Oct. 28,'09
105	Furnishing materials and paving Second street from King street south to bulkhead wharf.	Flinn & Treacy	July 8,'09	1. Furnishing and paving with basalt blocks (preparing roadbed included), 28c. per sq. ft. 2. Furnishing and setting granite curb (curved curb included), $1.95 per lin. ft. 3. Constructing storm water catch basins, $75 each. 4. Furnishing and laying 10-inch stone sewer pipe, $1 per lin. ft. 5. Furnishing and laying 15-inch stone sewer pipe, $6 per lin. ft.	Sept. 2,'09	$1,679 47		
					Oct. 28,'09	4,548 11		
					Dec. 2,'09	2,075 86	8,303 44	Oct. 28,'09

106	Furnish materials and erect two office buildings on the bulkhead at pier No. 5 (Washington-street Wharf) *	M. M. Finlayson and Herman R. Stettin, Jr.	July 22,'09	$16,600 00	Sept. 8, 09 Oct. 8,'09 Dec. 2,'09 Dec. 23,'09	$4,980 00 4,357 50 1,920 00 3,968 75	15,226 25	Dee. 2,'09
107	Furnish and deliver all the structural steel for bulkhead section 7 of the seawall.	Mortenson Construction Co.	July 29,'09	1,898 00	Aug. 20,'09 Sept. 23,'09	$1,423 50 474 50	1,898 00	Aug. 19,'09
108	Construction of office building, with storage rooms underneath, under shed on pier No. 21 (Filbert-street Wharf).	W. L. Graff	July 29,'09	1,335 00	Aug. 28,'09 Sept. 30,'09	$1,001 25 333 75	1,335 00	Aug. 26,'09
109	Furnish materials and construct an approach to pier 40 and a bulkhead wharf between piers 38 and 40.**	Western Bridge and Construction Co.	Aug. 5,'09	28,463 00	Sept. 16,'09 Oct. 18,'09 Nov. 12,'09 Nov. 19,'09 Dec. 23,'09	$2,775 14 7,898 48 9,606 27 392 36 6,890 75	27,563 00	Nov. 18,'09
110	Furnish materials and labor for alterations in Southern Pacific baggage room in south wing of Ferry Building.†	McLaughlin & Walsh	Aug. 11,'09	2,974 00	Sept. 8,'09 Sept. 16,'09 Oct. 22,'09	$1,672 88 707 62 793 50	3,174 00	Sept. 8,'09
111	Furnish materials and lay asphalt pavement on bulkhead wharf of section 7 of seawall.	Flinn & Treacy	Sept. 23,'09	9c. per sq. foot	Oct. 22,'09 Nov. 23,'09	$1,406 97 468 99	1,875 96	Oct. 21,'09
112	Construct wing wall extending from westerly line of Beale street with northerly line of Brannan street to inner slope of section 11 of the seawall.	Healy-Tibbitts Construction Co.	Oct. 7,'09	99c. per ton of 2,000 lbs.	Nov. 26,'09 Dec. 30,'09 Dec. 30,'09	$2,227 50 1,887 27 742 50	4,857 27	Dec. 30,'09
114	Removing pier No. 2 (Mission-street Wharf No. 1).	Associated Contracting Company.	Oct. 28,'09	1,947 00	Mar. 18,'10 Apr. 22,'10	$1,460 25 486 75	1,947 00	Mar. 17,'10
115	Furnish labor and materials for construction of bulkhead wharf along section 11 of the seawall.‡	Associated Contracting Company.	Nov. 11,'09	45,743 00	Mar. 31,'10 Apr. 29,'10 May 19,'10 June 23,'10	$10,292 17 17,839 77 6,175 31 12,635 75	46,943 00	May 19,'10
116	Paving a portion of seawall lot No. 8	Benjamin M. Cram	Nov. 18,'09	27c. per sq. foot for paving. 22c. per lin. ft. for redwood curbing.	Jan. 14,'10 Feb. 18, '10	$1,866 57 622 19	2,488 76	Jan. 13,'10
119	Remove Spear-street Wharf (including shed over same) and portion of adjoining bulkhead wharf.	Associated Contracting Company.	Dec. 9,'09	2,793 00 and contractor to keep the material therefrom.	Mar. 3,'10	$2,793 00	2,793 00	Mar. 3,'10

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* Penalty exacted—29 days at $25 per day, $725. Contractors differed from amount of specifications to amount of $684.75.

** Penalty exacted—18 days at $50 per day, $900.

† Bonus paid--8 days at $25 per day, $200.

‡ Penalty exacted—24 days at $50 per day, $1,200.

Work contracted for and completed within the Biennial Term.—*Continued.*

No.	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.	Date of completion.
20	Furnish and deliver girder rails and special work at the Belt Railroad along sections 11, 12, and 13 of the seawall.	Pennsylvania Steel Co.	Dec. 9,'09	$57.75 per ton for 9-inch girder rail. $4.50 per pair for channel plates complete. 55c. each for brace tie plates. 30c. each for cushion tie plates. All special work as shown on plans with manganese hard center construction for $14,563.00.	Apr. 14,'10 May 20,'10	$23,883 67 7,961 23	$31,844 90	Apr. 14,'10
121	Furnish materials and construct three portable coke hoppers.	Moore & Scott Iron Works	Dec. 16,'09	$2,175 00	Jan, 27,'10 Mar. 3,'10	$1,631 25 543 75	2,175 00	Jan. 27,'10
122	Furnish and install a hot water heating plant in the offices on pier No. 40.	T. M. Collins	Dec. 23,'09	438 00	Jan. 20,'10 Feb. 24,'10	$328 50 109 50	438 00	Jan. 20,'10
124	Furnish and set granite and redwood curbing along the east side of Illinois street, and construct storm water catch basins.§	Benjamin M. Cram. (Assigned to C. Demetrak February 3, 1910)	Feb. 3,'10	$1.75 per lin. ft. for furnishing and setting granite curb. $0.22 per lin. ft. for furnishing and setting 6-inch by 10-inch redwood curb. $55 to construct each corner storm water catch basin. $50 to construct each intermediate catch basin. $80.75 per lin. ft. to furnish, lay and connect 10-inch stone sewer pipe.	Apr, 14,'10 May 20,'10	$1,842 16 614 06	2,456 22	Apr. 7,'10
126	Furnishing materials and paving Francisco street from the center line of Montgomery street to the westerly line of seawall lot No. 5.	A. E. Hennessey	Mar. 23,'10	1. To furnish and pave with basalt blocks (removing present pavement and preparing roadbed included) 24c. per sq. ft. 2. To furnish and set granite curb (curved curb included) $1.75 per lin. ft. 3. To furnish and set 6 in. by 10 in. redwood curb, 1c. per lin. ft.	May 5,'10	$3,384 24 1,128 08	4,512 32	June 9,'10
	CREDIT CONTRACT.							
52	Purchase old lumber from Board of State Harbor Commissioners for term of one year from date of contract	G. A. Love	Apr. 20,'08	$2.25 per M feet		$1,603 77	1,603 77	Apr. 20,'09

Work contracted for since date of last Biennial Report, but not yet completed.

No...	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.
37	Furnish and deliver fuel oil at the roundhouse of the Belt Railroad.	Union Oil Company	Jan. 2,'08	$1.00 per barrel	Feb. 25,'08	$1,143 00	
					Apr. 22,'08	930 00	
					June 23,'08	1,005 00	
					Aug. 21,'08	1,250 00	
					Oct. 27,'08	1,250 00	
					Nov. 21,'08	1,250 00	
					Jan. 25,'09	1,253 75	
					Mar. 19,'09	1,253 75	
					June 21,'09	1,250 00	
					Aug. 25,'09	1,244 88	
					Oct. 23,'09	1,233 68	
					Dec. 18,'09	1,250 00	
					Feb. 19,'10	1,255 62	
					Apr. 22,'10	1,248 76	
					June 18,'10	1,248 76	$18,062 20
76	Furnishing piles for 3 years	Hammond Lumber Co.	Oct. 29,'08	12 and 13-inch butts 14c. per lin. ft. 14 and 15-inch butts 16c. per lin. ft. 16, 17 and 18-inch butts 18c. per lin. ft.	Dec. 19,'08	$4,725 04	
					Jan. 23,'09	6,549 32	
					Feb. 18,'09	6,783 88	
					Mar. 19,'09	4,560 94	
					Apr. 16,'09	10,777 14	
					May 21,'09	5,106 92	
					June 21,'09	3,160 46	
					July 15,'09	3,255 76	
					Aug. 20,'09	4,050 50	
					Sept. 16,'09	2,405 04	
					Oct. 23,'09	913 46	
					Nov. 19,'09	1,724 58	
					Dec. 18,'09	1,663 38	
					Jan. 22,'10	5,870 36	
					Feb. 18,'10	3,270 38	
					Mar. 18,'10	3,341 46	
					Apr. 22,'10	3,405 16	
					May 20,'10	3,952 24	
					June 18,'10	1,214 24	76,730 26
77	Furnishing lumber for two years	Hickman & Masterson (Assigned to N. H. Hickman May 31, '09.)	Nov. 5,'08	Fir (known as pine) from $15 to $22.75 per M ft., according to size. Lath from $3 to $12 per M pieces, according to length. Pickets from $6 to $16 per M pieces, according to length. Ship plank: Rough $45 per M ft. Decking: Rough $50 per M ft.	Dec. 19,'08	$2,362 53	
					Jan. 23,'09	4,695 76	
					Feb. 18,'09	2,388 67	
					Feb. 18,'09	148 54	
					Mar. 19,'09	3,493 87	
					Apr. 16,'09	4,068 06	
					May 21,'09	4,113 31	
					June 21,'09	4,857 11	
					July 15,'09	4,155 95	

Work contracted for since date of last Biennial Report, but not yet completed.—*Continued.*

No.	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.
77	Furnishing lumber for two years	Hickman & Masterson (Assigned to N. H. Hickman May 31, '09.)	Nov. 5,'08	Tongue and grooved flooring from $22 to $42, according to selection. Stepping S 1 S from $25 to $48 per M ft., according to selection. Rustic from $25 to $36 per M ft., according to selection. Rough spruce from $16 to $45 per M ft., according to size. Kiln dried fir (known as pine) from $16 to $45 per M ft., according to grain. Redwood from $23 to $46 per M ft., according to size. Pickets from $20 to $25. Rustic: Stock patterns, from $26 to $45, according to length. Tongue and grooved: Stock patterns, from $20 to $42, according to length. Sundries: Shingles, $3 to $4.25 per 1,000; shakes, $18 and $19 per 1,000; siding, $30, ½ by 6, surface measure; battens, ½ by 3, ¾c. per lin. ft.	Aug. 20,'09	$12,760 80	
					Sept. 16,'09	16,304 24	
					Oct. 23,'09	2.896 93	
					Nov. 19,'09	3,052 45	
					Dec. 18,'09	4,761 92	
					Jan. 22,'10	4,191 06	
					Feb. 18,'10	13,288 82	
					Mar. 18,'10	7,085 87	
					Apr. 22,'10	5,161 27	
					May 20,'10	5,138 90	
					Jun. 18,'10	4,179 27	$109,105 33
88	Construction of pier No. 34	Associated Contracting Co. (Assigned to Western Pacific Railway Co. Sept. 16, '09.)	Mar. 18,'09	$167,730 00	Jan. 14,'10	$18,869 62	
					Feb. 18,'10	18,869 63	
					Mar. 10,'10	16,353 67	
					Apr. 14,'10	33,965 33	
					May 12,'10	18,869 63	
					June 9,'10	12,579 74	119,507 62
93	Furnish not less than 60,000 nor more than 200,000 barrels of cement from Davenport, California.*	Santa Cruz Portland Cement Co.	May 6,'09	$1.90 per barrel f.o.b. San Francisco	June 21,'09	$5,658 88	
					July 15,'09	20,762 90	
					Aug. 20,'09	23,922 50	
					Oct. 22,'09	5,158 15	
					Nov. 19,'09	4,052 80	
					May 6,'10	11,311 15	70,866 38
96	Construction of section 9 of the seawall	Associated Contracting Co.	June 10,'09	261,000 00	Apr. 29,'10	$31,320 00	
					June 2,'10	25,447 50	
					June 30,'10	60,682 50	117,450 00

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*Note.—It was stipulated in this contract that if at any time during its life cement was sold in the market at a lower price than that specified in the contract, the Board of State Harbor Commissioners should receive the benefit of the difference. Evidence of such sales having been proved, the contractor, on April 30, 1910, issued a credit memorandum against outstanding bills, as follows: 25 cents per barrel on 31,755 barrels from May 29, 1909, to January 1, 1910, $7,938.75.

103	Cleaning East street	San Francisco Teaming Co.	July 1,'09	98c. per 1,000 sq. yds. on district No. 7. 67c. per 1,000 sq. yds. on districts Nos. 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12.	Sept. 16,'09 Oct. 23,'09 Nov. 19,'09 Jan. 7,'10 Feb. 18,'10 Mar. 18,'10 Apr. 22,'10 May 20,'10 June 18,'10	$1,529 04 1,354 70 1,349 05 1,063 70 969 74 898 76 1,104 96 1,400 95 1,416 73	$13,717 64
113	Repiling and repairing the different wharves, piers, bulkheads and ferry slips on the water front of the city and county of San Francisco.	Healy-Tibbitts Construction Co.	Oct. 7,'09	1. Drive, fit and fasten each standard pile (floating driver), $3.50 per pile. 2. Drive, fit and fasten each standard pile (top driver), $4.50 per pile. 3. Drive, fit and fasten each standard pile (lowered through roof, including repairing roof), $15.00 per pile. 4. Drive, fit and fasten each fender pile, $3.40 per pile. 5. Drive, fit and fasten each brace pile, $7.00 per pile. 6. Drive, fit and fasten each cluster pile, $5.00 per pile. 7. Drive, fit and fasten each mooring pile, $8.00 per pile. 8. Drive, fit and fasten each spring pile along sides and ends of piers, $3.00 per pile. 9. Drive, fit and fasten each spring pile in slips, $8.00 per pile. 10. Drive, fit and fasten each cluster pile in nose of slip, $15.00 per pile. 11. Fit, lay and fasten each one M ft. B. M. of caps, $10.00 per M ft. 12. Fit, lay and fasten each one M ft. B. M. of compound stringers, $9.00 per M ft. 13. Fit, lay and fasten each one M ft. B. M. of inner stringers, $6.00 per M ft. 14. Fit, lay and fasten each one M ft. B. M. of chocks, $14.00 per M ft. 15. Fit, lay and fasten each one M ft. B. M. of planking, $7.50 per M ft. 16. Fit, lay and fasten each one M ft. B. M. of curb, $10.00 per M ft. 17. Fit, lay and fasten each one M ft B. M. of ribbing in spring fender lines, $25.00 per M ft. 18. Fit, lay and fasten each one M ft. B. M. of taken-up sound planking, etc., $5.50 per M ft.	Nov. 19,'09 Dec. 2,'09 Jan. 7,'10 Feb. 3,'10 Mar. 4,'10 Apr. 3,'10 May 6,'10 June 2,'10	$4,091 45 5,582 51 7,294 37 9,059 94 8,071 25 6,879 48 6,869 15 5,447 84	53,295 99

Work contracted for since date of last Biennial Report, but not yet completed.—*Continued.*

No...	Description.	Contractors.	Date of contract.	Contract price.	Date of payments.	Amounts.	Total.
113	Repiling and repairing the different wharves, piers, bulkheads and ferry slips on the water front of the city and county of San Francisco.	Healy-Tibbitts Construction Co.	Oct. 7, '09	19. Raise and refasten each shed post, $5.00 per M ft. 20. Fit fasten and trim each one M ft. B. M. of sheathing in slips, $18.00 per M ft. 21. Fit, lay and fasten each one M ft. B. M. of corbel, $35.00 per M ft. 22. Fit, lay and fasten each one M ft. B. M. of track stringers, $8.00 per M ft. 23. Rebolting brace piles with 1⅛-inch screw bolts, $2.00 per pile. 24. Rebolting standard piles with 1 by 22-inch blunt bolts, $1.50 per pile. 25. Rebolting mooring piles with 1-inch screw bolts, $2.00 per pile. 26. Rent of driver and crew of 8 men, $10.00 per hour. 27. Rent of driver and crew of 7 men, $9.50 per hour. 28. Rent of driver and crew of 5 men, $8.50 per hour. 29. Pulling piles to be redriven in new location, $10.00 per pile. 30. Percentage of increase for substitution of approved eucalyptus piles for pine piles, 40 per cent.			
117	Construction of pier No. 54	Thomson Bridge Co.	Nov. 24,'09	$263,000 00	Feb. 18,'10 Mar. 31,'10 Apr. 29,'10 May 27,'10 June 23,'10	$9,862 50 33,532 50 27,615 00 31,560 00 29,587 50	$132,157 50
118	Pave East street from King street to north of First street, and also portions of King, Japan, and Townsend streets.	Flinn & Tracey	Dec. 2,'09	To furnish and pave with basalt blocks (including preparing roadway), 29½c. per sq. ft. To furnish and set granite curb (curved curb included), $2 per lin. ft. To furnish and set 6 by 10-inch redwood curb, 25c. per lin. ft. To construct each corner catch basin, $40. To construct each intermediate catch basin, $40. To furnish, set and lay 10-inch stone sewer pipe, $1 per lin. ft.	Jan. 7,'10 Jan. 22,'10 Jan. 22,'10	$3,992 51 9,358 13 146 91	13,497 55

123	Furnish all labor and materials and repair all shingle roofs under the jurisdiction of the Board of State Harbor Commissioners.	Ralph Kalloch Company	Jan. 13,'10	1. Furnishing and laying new shingles, per square $4.87. 2. Each thousand old shingles refastened, $0.33. 3. Furnishing and fastening each 1,000 ft. B.M. new boards, $22.50.			
125	Remove pier No. 20 (Steuart-street Wharf)	Associated Contracting Company.	Feb. 24,'10	$2,985 00			
127	Furnish and deliver 1,100, more or less, creosoted piles, ship's tackle, San Francisco.	Puget Sound Wood Preserving Company.	Apr. 21,'10	42c. per lin. ft. (estimated at $31,500 00)	....	....	....
128	Purchase old lumber from the Board of State Harbor Commissioners for the term of one year from date of contract.	G. A. Love	June 23,'10	$2.25 per thousand feet B.M.	....	....	....
129	Blasting rock at pier No. 54	Thomson Bridge Company.	June 23,'10	$18,600 00	....	....	....

PART VII.

SHIPPING STATISTICS.

Freight Discharged and Loaded over the State Wharves of San Francisco during the fiscal year from July 1, 1908, to June 30, 1909.

Items.	Units.	By shipping other than railroad ferryboats.			By railroad ferryboats and cars.	Grand totals.
		Discharged.	Loaded.	Totals, discharged and loaded.	Discharged and loaded.	
Hay	Tons	13,791	5,941	19,732	52,402	72,134
Soft wood lumber	Feet (B. M.)	292,956,184	11,354,118	304,310,302	53,215,400	357,525,702
Hardwood lumber	Feet (B. M.)	1,144,722	293,936	1,438,658	1,363,400	2,802,058
Piles	Number	4,341	1,084	5,425	1,615	7,040
Fence posts	Number	19,655	3,950	23,605	5,095	28,700
Railroad ties	Feet (B. M.)	2,427,400	44,947	2,472,347		2,472,347
Redwood shingles	Bundles	207,668	10,481	218,149	91,133	309,282
Laths	Bundles	169,137	3,225	172,362	9,397	181,759
Shakes	Bundles	18,234	23,444	41,678	7,631	49,309
Cordwood	Cords	281	106	387	7,173	7,560
Tanbark	Cords	66		66	1,639	1,705
Fire bricks	Number	678,009	95,500	773,509	153,500	927,009
Bricks, other than fire bricks	Number	9,585,100	163,000	9,748,100	21,315,000	31,063,100
Bricks discharged from one vessel into another	Number	50,000		50,000		50,000
Wool and cotton	Sacks	5,977	256	6,233	44,663	50,896
Wool and cotton	Bales	502	91,546	92,048	36,103	128,151
Hops	Bales	8,024	3,795	11,819	8,794	20,613
Hides of cattle, green and dry	Number	62,878	50,485	113,723	264,046	377,769
Skins	Number	39,072		39,072	41,229	80,301
Cattle, horses, and mules	Number	3,357	6,143	9,500	106,306	115,806
Colts and calves	Number	743	777	1,520	30,611	32,131
Sheep, hogs, and goats	Number	15,994	1,827	17,821	518,756	536,577
Crushed rock or ballast	Long tons	135,129	10,703	145,832	830	146,662
Wheeled vehicles and agricultural implements, set up	Number	1,894	2,494	4,388	481	4,869
Empty barrels	Number	3,745	14,512	18,257	82,001	100,258
Charcoal	Sacks				85,645	85,645
Cement	Tons	24,080	3,166	27,246	74	27,320
Lime	Tons	3,004	2,511	5,515	5,607	11,122
Beef, pork, and fish	Tons	46,456	17	46,473	3,324	49,797
Sugar and syrup	Tons	74,425	16	74,441		74,441
Wines and liquors	Barrels	51,058	54,234	105,292	89,965	195,257
Wines and liquors	Pipes	2,065	235	2,300	17,559	19,859
Cocanuts	Number	1,153,000		1,153,000		1,153,000

Bananas	Bunches	126,726		126,726	20,411	147,137
Crude oil, naphtha, and gasoline	Tons	530,673	237,530	768,203	41,181	809,384
Grain	Tons	60,699	10,108	70,807		70,807
Merchandise, by weight or measurement	Tons	986,272	723,495	1,709,767	1,846,799	3,556,566
Flour in transit	Tons	5,181	64	5,245		5,245
Coal	Long tons	288,511	15,187	303,698	80,225	383,923
Salt	Tons	38,118	1,934	40,052		40,052
Copra	Tons	1,988		1,988		1,988
Sand and gravel	Long tons	27,843	400	28,243		28,243
Asphalt	Long tons		76	76		76
Cliff stone	Long tons	1,682		1,682		1,682
Coke	Long tons	4,443	581	5,024		5,024
Scrap and pig iron	Long tons	3,093	10	3,103		3,103
Fertilizer	Tons	1,363		1,363		1,363
United States Government freight	Tons	25	1,461	1,486		1,486
Ship stores and supplies	Tons		6,752	6,752		6,752

Freight Disharged and Loaded over the State Wharves, San Francisco, during the fiscal year from July 1, 1909, to June 30, 1910.

Items.	Units.	By shipping other than railroad ferryboats.			By railroad ferryboats and cars.	Grand totals.
		Discharged.	Loaded.	Totals, discharged and loaded.	Discharged and loaded.	
Hay	Tons	17,703	18,012	35,715	49,197	84,912
Soft wood lumber	Feet (B. M.)	299,096,966	15,529,189	314,626,155	45,418,000	360,044,155
Hardwood lumber	Feet (B, M.)	2,383,937	180,357	2,564,294	1,845,400	4,409,694
Piles	Number	12,955	1,496	14,451	2,515	16,966
Fence posts	Number	35,016	1,767	36,783	3,850	40,633
Railroad ties	Feet (B. M.)	1,017,660	164,520	1,182,180	510,000	1,692,180
Redwood shingles	Bundles	254,420	4,026	258,446	53,790	312,236
Laths	Bundles	197,156	3,043	200,199	21,096	221,295
Shakes	Bundles	17,200	8,187	25,387		25,387
Cord wood	Cords	1,483	139	1,622	7,056	8,678
Tanbark	Cords	326		326	933	1,259
Fire bricks	Number	456,250	257,500	713,750	610,475	1,324,225
Bricks other than fire bricks	Number	2,246,760	284,775	2,531,535	14,869,800	17,401,335
Bricks discharged from one vessel into another	Number	24,000		24,000		24,000
Wool and cotton	Sacks	2,764	446	3,210	22,924	26,134
Wool and cotton	Bales	19,635	65,876	85,511	20,136	105,647
Hops	Bales	3,667	808	4,475	14,133	18,608

Freight Discharged and Loaded over the State Wharves, San Francisco, during the fiscal year from July 1, 1909, to June 30, 1910—*Continued.*

Items.	Units.	By shipping other than railroad ferryboats.			By railroad ferryboats and cars.	Grand totals.
		Discharged.	Loaded.	Totals, discharged and loaded.	Discharged and loaded.	
Hides of cattle, green and dry	Number	46,164	51,629	97,793	327,892	425,685
Skins	Number	10,928	369	11,297	133,228	144,525
Cattle, horses, and mules	Number	2,841	3,010	5,851	96,323	102,174
Colts and calves	Number	17	19	36	20,611	20,647
Sheep, hogs, and goats	Number	20,804	1,474	22,278	639,000	661,278
Crushed rock or ballast	Long tons	75,076	10,048	85,124	2,051	87,175
Wheeled vehicles and agricultural implements, set up	Number	1,877	2,392	4,269	19,818	24,087
Empty barrels	Number	394	13,261	13,655	274,502	288,157
Charcoal	Sacks				38,732	38,732
Cement	Tons	9,959	4,766	14,725	28	14,753
Lime	Tons	95	292	387		387
Beef, pork, and fish	Tons	42,450	158	42,608		42,608
Sugar and syrup	Tons	83,837	766	84,603		84,603
Wines and liquors	Barrels	75,587	106,664	182,251	156,212	338,463
Wines and liquors	Pipes	1,589	32	1,621	27,418	29,039
Cocoanuts	Number	930,500		930,500		930,500
Bananas	Bunches	208,204	19	208,223	99,085	307,308
Crude oil, naphtha, and gasoline	Tons	634,923	183,349	818,272		818,272
Grain	Tons	66,230	4,481	70,711	458	71,169
Merchandise, by weight or measurement	Tons	1,002,468	744,658	1,747,126	1,990,615	3,737,741
Flour in transit	Tons	7,330	6,077	13,407		13,407
Coal	Long tons	294,956	39,308	334,264	114,002	448,266
Salt	Tons	52,234	417	52,651	35	52,686
Copra	Tons	10,268		10,268		10,268
Sand and gravel	Long tons	34,066	140	34,206		34,206
Asphalt	Long tons	158	67	225		225
Cliffstone	Long tons	2,458		2,458		2,458
Coke	Long tons	10,452	355	10,807		10,807
Scrap and pig iron, tin and copper	Long tons	7,998	1,006	9,004		9,004
Fertilizer	Tons	3,306		3,306		3,306
United States Government freight	Tons	64	1,015	1,079		1,079
Ships' stores and supplies	Tons		5,236	5,236		5,236

Tons of Freight Discharged and Loaded over the State Wharves during the sixteen years from 1894 to 1910.

Year.	Tons.
1894-95	3,729,367
1895-96	3,848,461
1896-97	3,657,219
1897-98	3,894,362
1898-99	4,154,453
1899-00	4,646,157
1900-01	5,048,831
1901-02	4,890,679
1902-03	5,203,485
1903-04	5,528,048
1904-05	5,292,113
1905-06	5,748,992
1906-07	6,802,793
1907-08	6,468,527
1908-09	6,325,078
1909-10	6,866,148
Total	82,104,713

Schedule of Dockings at the State Wharves of San Francisco during the fiscal year from July 1, 1908, to June 30, 1909.

Wharf.	American ocean steamers.	Foreign steamers	Bay and river steamers	American ships, barks, etc.	Foreign ships, barks, etc.	Tugs and launches.	Schooners and sloops.	Barges and lighters.	U. S. Government steamers and tugs.	Total.
Fisherman. Small fishing boats only.										
Section 1, seawall	1,633		127	4	3	106	115	301	1	2,290
Section 2, seawall	143		466			1	69	24		703
Section 3, seawall	219		29			29	92	101		470
Pier No. 25 (Greenwich street No. 2)	71	2	20	2		4	47	44		190
Pier No. 23 (Greenwich street No. 1)	92	1	14	7		69	81	22		286
Pier No. 21 (Filbert street)	23	6	7	28	47	74	148	19		352
Pier No. 19 (Union street No. 2)	47	58	66	7	9	1	170	29	1	388
Pier No. 17 (Union street No. 1)	37	5	28	26	21	21	143	90	5	376
Pier No. 15 (Green street)	1		31		1	41	12	378		464
Pier No. 13 (Vallejo street)	196		24	5	10	111	228	420		994
Pier No. 11 (Broadway No. 2)	187		5		1		40	52	1	286
Pier No. 9 (Broadway No. 1)	272		60				135	21		488
Pier No. 7 (Pacific street)	365	4	36	12	2		81	107		607
Pier No. 5 (Jackson street)	1		1,862			5	289	98	52	2,307
Pier No. 3 (Washington street)			923			18	4	4	1,460	2,409
Pier No. 1 (Clay street)			784			1,217		4		2,005
Union Depot and Ferry House. Transbay ferry service.										
Pier No. 2 (Mission street No. 1)	1,258		512	1		8	60	6		1,845
Pier No. 4 (Mission street No. 2)	272	9	4	24	6	2,200*	63	90	6	2,674
Pier No. 6 (Howard street No. 1)	74	1	14	24	57	6,580*	169	132	18	7,069
Pier No. 8 (Howard street No. 2)	100		63		1	301	50	87	29	631
Pier No. 10 (Howard street No. 3)	107		9	24		1,540	152	126	3	1,961
Pier No. 12 (Folsom street No. 1). U. S. Army transport service.										
Pier No. 14 (Folsom street No. 2)	61	41	9	9		6	144	149	6	425
Pier No. 16 (Harrison street)	308	1	297	7		1	212	15	1	842
Pier No. 20 (Steuart street)	308	7	152	31			454	216		1,168
Pier No. 24 (Spear street)	210		12				185	99	2	508
Pier No. 28 (Main street)	534		7	5	1	18	392	164	31	1,152
Pier No. 32 (Beale street)	93	1	4	20	11	11	111	66	3	320
Piers Nos. 42 and 44 (Pacific Mail dock)	704	49	147	5	3	378	155	520	44	2,005
Third street	125		5	5		110	1,047	79		1,371
Berry street	87		1	2			124	76		290
Channel street	148	2	5	2	4	1	434	106	4	706
Center street	627	38	126	20	13	90	246	499	10	1,669
Totals	8,303	225	5,849	270	190	12,941	5,652	4,144	1,677	39,251

* Launches estimated.

Ocean steamships docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds measurement, and marked*.

Nationality.	Name.	Net tonnage.	Nationality.	Name.	Net tonnage.
American	Aberdeen	394	British	Cambrian King	2,544
American	Acapulco	1,759	British	Cariboo	
American	Acme	269	British	Celtic King	2,589*
American	Admiral Sampson	1,432	British	Celtic Monarch	1,982*
American	Alameda	1,939	British	Century	3,023
American	Alaskan	5,621	British	Chatham	3,036
American	Albion	140	British	Clan Macinnes	3,781
American	Alcatraz	193	British	Claverley	2,639
American	Alitak	73	German	Cleveland	10,300
American	Aquilo (yacht)	103	French	Corse	5,321*
American	Arcata	415	Norwegian	Cecil	2,523
American	Arctic	277	Japanese	Chiyo Maru	7,250
American	Argo	112	American	Daisy	379
American	Argyll	1,880	American	Daisy Freeman	436
American	Arizonan	5,621	American	Daisy Mitchell	395
American	Asuncion	1,328	American	Delhi	582
American	Aurelia	233	American	Del Norte	279
American	Aztec	2.298	American	Despatch	539
British	Aeon	3,025	American	Doris	425
British	Ardmount	2,577	British	Dakotah	2,593*
British	Ashtabula	4,541	American	Edith	1,495
British	Asia	2,936*	American	Elizabeth	284
German	Acilia	5,764	American	Ellen	226
German	Alesia	3,371*	American	Enterprise	1,681
German	Amasis	2,938	American	Eureka	312
German	Ammon	2,944*	American	Excelsior	261
German	Anubis	3,089*	American	Expansion	113
German	Arabia	3,080	British	Earl of Elgin	3,598
German	Assuan	3,081*	British	El Lobo	2,948*
German	Augustus	3,783	British	English Monarch	3,471
French	Amiral Duperre	3,254	German	Ella	2,250*
French	Amiral Exelmans	3,221	German	Erna	2,173*
French	Amiral Fourichon	3,186*	Norwegian	Eir	2,687
French	Amiral Hamelin	3,188	American	F. A. Kilburn	458
French	Amiral Magon	3,588*	American	F. S. Loop	445
French	Amiral Olry	3,570	American	Fairhaven	437
Norwegian	Aagot	2,931	American	Fair Oaks	533
Norwegian	Alden	2,430*	American	Falcon	955
American	Bandon	350	American	Fifield	440
American	Bear	2,779	American	Francis H. Leggett	975
American	Beaver	2,779	American	Fulton	265
American	Bee	375	British	Foreric	3,119
American	Bowdoin	448	American	G. C. Lindauer	287
American	Breakwater	793	American	George Loomis	401
American	Brooklyn	216	American	Geo. F. Haller	81
American	Brunswick	349	American	Geo. W. Elder	1,224
American	Buckman	1,259	American	Geo. W. Fenwick	1,193
British	Bannockburn	4,052	American	Governor	2,401
British	Bessie Dollar	3,682	American	Grace Dollar	289
British	Boveric	3,722	American	Gray's Harbor	374
American	Capastrano	362	American	Greenwood	144
American	Carlos	541	American	Gualala	158
American	Carmel	401	British	Gymeric	3,144
American	Cascade	339	American	Hanalei	502
American	Casco	298	American	Harold Dollar	607
American	Centralia	324	American	Helene	307
American	Charles Nelson	397	American	Helen P. Drew	178
American	Chehalis	421	American	Herman (whaler)	229
American	Chilkat	98	American	Hilonian	1,819
American	China	3,186	American	Homer	331
American	City of Long Beach	191	American	Hoquiam	440
American	City of Panama	1,046	American	Hornet	402
American	City of Para	2,504	American	Humboldt	688
American	City of Puebla	1,712	American	Hyades	2,932
American	City of Sydney	1,965	British	Hazel Dollar	3,581
American	City of Topeka	746	British	Hyndford	3,506
American	Claremont	418	German	Hermonthis	3,174
American	Coaster	353	Austrian	Hermine	2,416*
American	Colonel E. L. Drake	3,307	Norwegian	Henrik Ibsen	3,764
American	Columbian	5,598	Norwegian	Hercules	3,411
American	Coos Bay	403	Norwegian	Herm	2,751
American	Coquille River	265	Norwegian	Hornelen	2.660
American	Coronado	381	American	Iaqua	462
American	Costa Rica	1,166	American	Indiana	2,561
American	Curacao	895	American	Isthmian	3,463
American	Czarina	793	British	Induna	3,681

Ocean steamships docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910—*Continued.*

Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds measurement, and marked*.

Nationality.	Name.	Net tonnage.	Nationality.	Name.	Net t
British	Inveric	3,387	American	Pasadena	235
British	Inverkip	3,589	American	Pennsylvania	2,567
British	Inverness	2,428	American	Peru	2,539
British	Invertay	3,766	American	Phoenix	160
German	Itauri	2,941*	American	Pleiades	2,932
American	J. Marhoffer	334	American	Point Arena	171
American	J. A. Chanslor	3,121	American	Pomo	235
American	J. B. Stetson	521	American	Prentiss	267
American	J. C. Elliot	29	American	President	2,393
American	J. J. Loggie	220	American	Queen	1,672
American	J. L. Luckenbach	3,192	American	Quinault	426
American	James S. Higgins	249	American	R. D. Inman	427
American	Jeanette (whaler)	217	American	Rainier	519
American	Jeanie	862	American	Ramona	671
American	Jennie	69	American	Ravalli	777
American	Jim Butler	343	American	Raymond	350
American	Johan Poulsen	423	American	Redondo	462
British	Janeta	3,136	American	Riverside	955
American	Kadiak	58	American	Roanoke	1,654
American	Kansas City	2,163	American	Roma	2,164
American	Karluk (whaler)	247	American	Rose City	2,154
American	Katherine	292	American	Rosecrans	1,816
American	Klamath	662	British	River Clyde	2,738
American	Korea	5,651	British	Riverdale	3,408
American	Kvichak	610	German	Radames	3,119*
British	Katanga	2,321	German	Ramses	2,352
British	Kilburn	2,196	American	Saginaw	498
British	Knight of St. George	3,154	American	St. Croix	1,064
American	Lakme	404	American	St. Helens	779
American	Lansing	3,428	American	Samoa	237
American	Leelanaw	1,377	American	San Gabriel	312
American	Lehua	129	American	San Jacinto	352
American	Lucero (yacht)	21	American	San Jose	1,538
American	Lucy Neff	759	American	San Juan	1,496
American	Lurline	3,725	American	San Pedro	359
British	Lord Sefton	3,026	American	Santa Barbara	527
American	M. F. Plant	941	American	Santa Clara	1,208
American	Mackinaw	2,005	American	Santa Monica	318
American	Majestic	449	American	Santa Rosa	1,385
American	Manchuria	8,750	American	Sea Foam	205
American	Mandalay	266	American	Senator	1,835
American	Mariposa	1,939	American	Shasta	517
American	Marshfield	294	American	Shawmut	1,100
American	Maverick	1,118	American	Shna Yak	452
American	Mayfair	420	American	Shoshone	341
American	Melville Dollar	921	American	Siberia	5,655
American	Mexican	5,598	American	Sibyl Marston	647
American	Missourian	5,077	American	Sierra	3,756
American	Mongolia	8,750	American	Signal	392
American	Montara	1,695	American	South Bay	279
British	M. S. Dollar	2,699	American	South Coast	225
British	Magdala	3,543	American	Spokane	1,289
British	Mancunia	2,287*	American	Stanley Dollar	955
German	Memphis	2,519	American	State of California	1,260
German	Mera	3,087*	American	Svea	370
American	Nann Smith	1,192	British	St. Denis	302*
American	National City	220	British	Seminole	3,798
American	Navarro	171	British	Strathlorne	3,573
American	Nebraskan	2,824	British	Strathord	3,016
American	Nevadan	2,824	British	Strathspey	3,017
American	Newburg	333	British	Strathtay	2,850*
American	Newport	1,806	German	Sais	4,091
American	Nome City	597	German	Sakkarah	3,928
American	North Fork	244	German	Salatis	4,153
American	Northland	560	German	Sebara	3,828
American	Norwood	492	German	Serak	3,819
American	Novo	229	German	Serapis	3,933
American	Nushagak	478	German	Setos	4,492
German	Neptun	141*	German	Sisak	3,845
German	Nicomedia	3,747	Norwegian	Selja	2,789*
German	Numantia	3,696	American	Tahoe	419
Japanese	Nippon Maru	3,442	American	Tallac	1,103
American	Olson and Mahony	779	American	Tamalpais	422
American	Olympia	1,730	American	Tampico	1,451
American	Olympic	451	American	Temple E. Door	453
British	Oberon	3,161*	American	Texan	5,636
French	Ouessant	5,317*	American	Thistle	56

Ocean steamships docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910—*Continued.*

Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds measurement, and marked*.

Nationality.	Name.	Net tonnage.	Nationality.	Name.	Net tonnage.
American	Thos. L. Wand	413	American	Washcalore	178
American	Tiverton	336	American	Washington	367
American	Tyee, Jr.	71	American	Washtenaw	2,003
British	Taunton	2,461*	American	Wasp	360
British	Tonawanda	2,183	American	Watson	1,237
British	Tweeddale	3,149	American	Wellesley	430
British	Tymeric	2,324	American	Westerner	369
Norwegian	Thode Fagelund	3,095	American	Westport	154
Norwegian	Thor	3,152	American	Whitesboro	144
Norwegian	Titania	2,315*	American	Whittier	798
Norwegian	Tordenskjold	2,527	American	Wilhelmina	4,402
Norwegian	Tricolor	3,283	American	Willapa	433
Japanese	Tenyo Maru	7,265	American	William H. Murphy	673
American	Umatilla	2,168	American	Winnebago	500
American	Unimak	158	British	Wellington	1,267*
German	Uarda	3,853	German	Walkure	2,520
American	Vanguard	228	German	Wotan	2,463
American	Virginian	5,077	American	Yellowstone	456
German	Vadso	698*	American	Yosemite	525
American	W. S. Porter	3,524	British	Yeddo	3,231

Square-rigged sailing vessels docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds measurement, and marked*.

Nationalty.	Rig.	Name.	Net tons.
American	Ship	Abner Coburn	1,878
American	Ship	Acme	2,987
American	Bark	Agate	595
American	Bark	Albert	624
American	Ship	Alex. Gibson	2,043
American	Barkentine	Amaranth	1,062
American	Barkentine	Amazon	1,105
American	Bark	Amy Turner	900
American	Bark	Andrew Welch	863
American	Bark	Annie Johnson	976
American	Barkentine	Archer	845
American	Ship	Aryan	1,939
American	Ship	Astral	2,987
American	Barkentine	Aurora	1,070
British	Ship	Acamas	1,715*
British	Ship	Allerton	1,938*
British	Bark	Antiope	1,380*
French	Bark	Anne de Bretagne	1,571*
German	Ship	Adolf	1,630*
German	Ship	Albert Rickmers	1,880*
German	Bark	Alsterberg	3,049*
German	Bark	Alsterufer	2,597*
Italian	Ship	Amphitrite	1,683*
Chilean	Bark	Andromeda	1,176*
American	Bark	B. P. Cheney	1,200
American	Barkentine	Benicia	653
American	Bark	Big Bonanza	1,343
American	Ship	Bohemia	1,528
British	Bark	Balasore	2,562*
British	Bark	Battle Abbey	1,465*
British	Ship	Beacon Rock	1,789*
British	Ship	Blackbraes	2,116*
British	Bark	British Yeoman	1,869*
British	Ship	Buccleuch	1,934*
French	Bark	Bayard	1,970*
French	Ship	Bayonne	2,241*
French	Bark	Belen	1,987*
French	Ship	Biarritz	2,252*
French	Bark	Boieldieu	1,981*
French	Bark	Brenn	1,950*
French	Bark	Bretagne	1,914*
French	Bark	Brizeux	1,963*

Square-rigged sailing vessels docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910—*Continued.*

Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds measurement, and marked*.

Nationalty.	Rig.	Name.	Net tons.
American	Bark	C. D. Bryant	823
American	Barkentine	Centennial	1,138
American	Ship	Charles E. Moody	1,734
American	Barkentine	Charles F. Crocker	762
American	Bark	Charmer	1,727
American	Barkentine	Chehalis	642
American	Barkentine	City of Papeete	370
American	Ship	Columbia	1,328
American	Barkentine	Coronado	1,007
British	Bark	California	2,461*
British	Bark	Carmanian	1,773*
British	Bark	Cissie	1,848*
British	Bark	Colony	1,598*
British	Bark	Crown of Germany	2,154*
American	Bark	Diamond Head	952
British	Bark	Dowan Hill	1,976*
British	Bark	Drummuir	1,798*
British	Ship	Dunsyre	2,056*
French	Bark	Duc d'Aumale	1,944*
American	Barkentine	Echo	650
American	Ship	Edward Sewall	2,916
American	Bark	Electra	939
American	Bark	Emily F. Whitney	1,207
British	Barkentine	Everett G. Griggs	2,351*
French	Bark	Emilie Siegfried	2,754*
French	Ship	Ernest Reyer	2,278*
French	Bark	Ernest Siegfried	2,754*
German	Bark	Edmund	2,914*
American	Ship	Falls of Clyde	1,748
American	Barkentine	Fremont	328
American	Bark	Fresno	1,149
American	Barkentine	Fullerton	1,494
French	Bark	Francois	1,945*
French	Bark	Franceoise d'Amboise	1,741*
American	Brigantine	Galilee	328
American	Barkentine	Gardiner City	451
American	Bark	Gayhead (whaler)	252
American	Brigantine	Geneva	451
American	Bark	George Curtis	1,680
American	Barkentine	Gleaner	392
American	Ship	Governor Robie	1,481
British	Bark	Glenmark	1,252*
French	Bark	Germaine	1,695*
French	Bark	Grande Duchesse Olga	1,748*
German	Ship	Gertrud	1,627*
American	Bark	Hecla	1,435
American	Ship	Henry Failing	1,824
British	Bark	Holt Hill	2,269*
British	Bark	Hougomont	2,239*
American	Ship	Indiana	1,413
American	Barkentine	Irmgard	614
American	Bark	Isaac Reed	1,488
American	Barkentine	J. M. Griffith	529
American	Bark	James Nesmit	1,632
American	Barkentine	James Tuft	1,043
American	Bark	John and Winthrop (whaler)	321
American	Barkentine	John C. Meyer	794
American	Ship	John Ena	2,706
American	Barkentine	John Palmer	1,080
French	Ship	Jean Bart	1,981*
French	Bark	Jeanne Cordonnier	1,967*
American	Barkentine	Kohala	776
American	Bark	Koko Head	1,011
British	Bark	Killoram	1,569*
British	Bark	Kilmeny	1,469*
American	Barkentine	Lahaina	994
American	Bark	Levi G. Burgess	1,475
American	Ship	Llewellyn G. Morse	1,271
American	Bark	Louisiana	1,343
British	Bark	Lord Templetown	2,048*
British	Bark	Lucipara	1,779*
French	Bark	Le Perouse	1,913*
French	Bark	Leon Blum	2,316*
American	Ship	McLaurin	1,312
American	Ship	Manga Reva	2,052
American	Barkenti	Mary Winkelman	482
American	Bark	Mohican	784

Square-rigged sailing vessels docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June, 30, 1910—*Continued.*

Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds measurement, and marked*.

Nationalty.	Rig.	Name.	Net tons.
British	Bark	Marlborough Hill	2,363*
British	Ship	Milverton	2,070*
British	Bark	Musselcrag	1,871*
French	Bark	Marechal Davout	1,941*
French	Bark	Marechal de Turenne	1,939*
French	Bark	Marie Madeleine	1,285*
French	Bark	Marie Molinos	1,715*
French	Bark	Max	1,726*
French	Bark	Mezly	1,391*
German	Bark	Mariechen	2,291*
American	Barkentine	Newsboy	509
American	Bark	Olympic	1,353
American	Ship	Oriental	1,550
American	Bark	Pactolus	1,564
American	Bark	Paramita	1,444
American	Barkentine	Planter	498
American	Barkentine	Puako	1,011
British	Bark	Pegasus	2,438*
British	Bark	Poltalloch	2,139*
French	Bark	Pierre Antonine	2,030*
Norwegian	Ship	Prince George	1,768*
American	Bark	R. P. Rithet	1,043*
American	Barkentine	Retriever	470
American	Ship	Reuce	1,601
French	Bark	Rene	1,976*
German	Bark	R. C. Rickmers	4,696*
American	Barkentine	S. G. Wilder	557
American	Barkentine	S. N. Castle	464
American	Ship	St. David	1,576
American	Ship	St. Francis	1,757
American	Bark	St. James	1,453
American	Bark	St. Katherine	1,090
American	Ship	Santa Clara	1,453
American	Ship	Shenandoah	3,154
American	Ship	Sintram	1,495
American	Ship	Standard	1,461
American	Ship	Star of Alaska	1,554
American	Bark	Star of Chile	874
American	Bark	Star of England	1,705
American	Bark	Star of Finland (formerly Kaiulani)	1,430
American	Ship	Star of France	1,522
American	Ship	Star of Greenland (formerly Hawaiian Isles)	1,974
American	Bark	Star of Holland (formerly Homeward Bound)	1,987
American	Bark	Star of Iceland (formerly Willscott)	1,856
American	Bark	Star of India	1,247
American	Ship	Star of Italy	1,474
American	Bark	Star of Peru	976
American	Ship	Star of Russia	1,898
American	Ship	Star of Scotland	2,146
British	Ship	Samoena	1,869*
British	Ship	Scottish Glens	1,999*
British	Ship	Scottish Moors	2,289*
British	Bark	Simla	2,087*
British	Bark	Strathgryfe	2,190*
French	Bark	St. Louis	1,779*
Norwegian	Bark	Sverre	1,076*
American	Ship	Tacoma	1,671
American	Barkentine	Thos. P. Emigh	923
British	Bark	Tinto Hill	2,067*
French	Ship	Thiers	2,251*
French	Bark	Turgot	1,959*
French	Bark	Ville du Havre	2,446*
French	Bark	Ville de Mulhouse	2,798*
American	Bark	W. B. Flint	746
American	Ship	William P. Frye	2,978
American	Barkentine	Wrestler	409
British	Ship	Wayfarer	1,935*
British	Ship	Wiscombe Park	2,075*
British	Bark	Wynford	1,859*

Schooners and Sloops docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Schooners.

Name.	Net tonnage.
A. B. Johnson	460
A. J. West	483
A. M. Baxter	430
Ada McCune	32
Adele Hobson	60
Adelia	29
Adelia Griffin	26
Admiral	26
Admiral	605
Advance	265
Advent	399
Aeolus (German)	150
Agnes	42
Agnes Jones	23
Alameda	33
Albertine	48
Albion	75
Alice McDonald	604
Allen A.	266
Alma	39
Aloha	742
Alpena	833
Alpine	91
Amelia	23
Americana	839
Anastasia	35
Andrew Jackson	34
Andy Mahony	495
Anna Aden	33
Annie	39
Annie E.	68
Annie L.	53
Annie Eliza	28
Annie E. Smale	809
Annie Maria	32
Ariel	684
Arthur	45
Bangor	398
Benicia	30
Black Diamond	39
Bonita	27
Borealis	683
Brothers	35
C. L. Place	27
C. T. Hill	133
Camano	631
Caroline Dixon	45
Carrier Dove	51
Cecilia Maria	22
Cecilia Sudden	545
Champion	42
Charles W.	71
Charles E. Falk	246
Charles Hansen (gas)	182
Charles R. Wilson	328
Chetco (gas)	98
Col. Baker	72
Columbia	584
Columbus	34
Comet	368
Confianza (gas)	84
Coquelle	97
Covina	74
Crescent	1,334
Crockett	56
Czarina	218
David Evans	748
Defender	382
Dora	42
Dora Bluhm	315
Dreadnaught	38
E. K. Wood	447
Eddy	37
Ellen Gunderson	34
Emily F. Bichard	44
Emily Lundt	32
Emma	45
Energy	22
Erma	79
Espada	686
Esther Buhne	245
Ethel Zane	407
Eva	35
Eveline	38
Expansion	512
Fidelity	50
Florence Caduc	41
Forester	621
Forest Home	682
Four Sisters (gas)	31
Fourth of July	47
Frank Lawrence	54
Fred E. Sander	389
G. W. McNear	88
G. W. Watson	397
Gamble	626
Gaslight	37
George E. Billings	1,103
George Washington	22
Georgia Woods	57
Glendale	281
Golden Fleece	45
Gotoma	189
Grace and Amy	33
Granger	55
Guide	137
H. Bendel	70
H. Eppinger	89
H. C. Wright	275
H. D. Bendixsen	570
Harry	23
Heckla	43
Helene	828
Henrietta M.	45
Henry Wilson	403
Hercules	45
Hermine Blum	50
Hiawatha (gas)	10
Hiram Bingham (gas)	5
Horace Templeton	40
Howard	69
Hugh Hogan	355
Ida A. (gas)	26
Ida McKay	178
Impossible (gas)	20
Inca	901
Invincible	1,267
J. H. Lunsmann	952
J. J. Stofen	30
James Byrnes	32
James F. McKenna	81
James H. Bruce	476
James Rolph	517
Jane L. Stanford	861
Jennie and Edna	60
Jennie Griffin (gas)	16
Jessie Matsen (gas)	31
John D. Spreckels	253
John Nagel	62
Katata (gas)	9
Karie S.	74
Kona	642
Lew Young	31
Lillian	37
Lily	135
Lime Point	18
Lizzie Prien	91
Lizzie S. Sorensen (gas)	49
Lizzie T. Adams	25
Lizzie Theresa	53

Schooners and Sloops docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910—*Continued.*

Schooners—Continued.

Name.	Net tonnage.	Name.	Net tonnage.
Lizzie Vance	383	Prosper	229
Lucy	294	Quock See Wo	15
Ludlow	643	R. C. Slade	601
Lyman D. Foster	692	R. W. Bartlett	473
Mabel and Edith	46	Redwood	25
Mabel Gale	619	Redwood City	32
Madeline	32	Reginia S.	65
Maggie V. Hartman	34	Repeat	410
Magnolia	44	Rio Rey (gas)	60
Mahukona	653	Robbie Hunter	54
Margaret C.	55	Robert and Jennie	47
Marie Chevallier	46	Robert Henry	38
Marina Mariscano	20	Robert R. Hind	520
Mariposa	81	Robert Searles	504
Martinez	23	Rock Island	27
Mary	50	Roderick Dhu	1,453
Mary C. (gas)	25	Rosella	37
Mary A. Fernandez	46	Rough and Ready	53
Mary E. Foster	839	Roy Somers	298
Mary Francis	28	Ruby	48
Mary Francis Cruz	44	S. T. Alexander	695
Master Mariner	37	St. Thomas	59
Matilda	92	Salem	698
May Flower	86	Salvator	385
Melrose	542	Samar	673
Melvina	35	San Buenaventura	171
Meta	36	Santa Paula	632
Meteor	518	Santiago	928
Metha Nelson	399	Sausalito	326
Miami	36	Sehome	620
Ming Lee	----------	Shasta	91
Minnie A. Caine	779	Snow and Burgess	1,528
Mizpah (gas)	41	Solano	63
Modoc	45	Sophie E.	40
Mono	126	Sophie Christensen	570
Monterey	1,694	Spokane	570
Montezuma	69	Stanley	253
Mountain View	41	Star	45
Mt. Eden (gas)	8	Surprise (gas)	65
Muriel	483	T. Alonzo	22
Narrow Gauge	22	Tartar	46
Nellie Carter	45	Theodore Roosevelt	51
Nellie Rich	43	Theresa	23
Nettie	62	Traveler	30
Newark (gas)	114	Twilight (gas)	10
Nokomis	462	Undine	81
Nonpareil (gas)	31	Virginia	541
O. M. Kellogg	331	W. H. Dimond	376
Oakland	383	W. H. Marston	1,110
Okanogan	606	W. H. Walker (gas)	8
Olga F.	51	War Eagle	31
Oliver J. Olson	596	Watson A. West	747
Omega	522	Wavelet	30
Oregon	304	William and Albert	31
Ottillie Fjord	247	William Bowden	695
Paul and Willie	33	William Renton	376
Pike County (gas)	29	Willie R. Hume	589
Pinole	77	Willis A. Holden	1,040
Plow Boy	37	Winfield Scott	47
Polaris	717	Wonder	46
Port Costa	62	Zampa	322
Premier	292		

Sloops.

Gjoa (Norwegian)	47	Mascot	10
Baribera	7	Red Wing	6
Bonita (yacht)	9	Say Lung	----------
Century	10	Smiths	17
Fung Hi	17	Union	10

Bay and river steamers docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Name.	Net tonnage.	Name.	Net tonnage.
A. C. Freese	120	Monticello	89
Aetna	43	Napa City	126
Alvira	253	Navajo	506
Alviso	113	Onisbo	332
Apache	537	Petroleum	43
Arrow	133	Potrero	320
Aurora	223	Pride of the River	391
Capt. Weber	349	Reform	348
Caroline	94	Requa	34
Constance	222	Resolute	161
Dauntless	349	St. Helena	222
Dimond	117	San Joaquin No. 2	134
Empress	45	San Joaquin No. 3	139
Etta B.	27	San Joaquin No. 4	276
F. M. Smith	102	San Rafael City	63
Fort Bragg	264	Sehome	369
General Frisbie	289	Sonoma	177
Gold	184	Suisun City	73
Grace Barton	119	Sunol	203
H. E. Wright	372	T. C. Walker	469
Herald	148	Topo	173
Hercules	347	Trilby	63
Isleton	331	Valletta	307
J. D. Peters	502	Victory	78
Juliette	276	W. P. Fuller	24
Leader	334	Zinfandel	204
Modoc	538		

Ferryboats.

Name.	Net tonnage.	Name.	Net tonnage.
Bay City	648	Piedmont	998
Berkeley	978	San Francisco	727
Cazadero	897	San Jose	588
Claremont	774	San Pablo	881
Fernwood	789	Sausalito	903
Garden City	730	Solano	3,057
James M. Donahue	400	Tamalpais	929
Melrose	1,677	Tiburon	634
Newark	833	Transit	1,079
Oakland	992	Ukiah	1,206
Ocean Wave	507	Yerba Buena	588

The ferryboats which run between San Francisco and transbay points make approximately 170 trips and carry over 100,000 passengers daily.

Tugs docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Name.	Net tonnage.	Name.	Net tonnage.
Ada Warren	26	Liberty	30
Annie	10	Louise	21
Arabs	91	Marian	13
Blanco	9	Mariner	60
Christopher Columbus	19	Millie	6
Crolona	81	Milton	11
Dauntless	144	Navigator	282
David Scannell (fire boat)	140	Pedro Costa	32
Defiance	127	Pilot	43
Dennis T. Sullivan (fire boat)	140	Priscilla	31
Despatch	9	Redondo	42
Dixie	19	Restless	27
Dow No. 1	15	Rover	30
Elen	35	Sea Fox	35
Elizabeth	12	Sea Lark	35
Elsie	37	Sea Prince	27
Elsie	13	Sea Queen	55
Farragut	23	Sea Rover	116
Fearless	87	Sea Witch	37
Fox	13	Tiger	43
Gleaner	71	Transit	18
Goliath	221	U. S. Grant	17
H. H. Buhne	97	Union No. 1	67
Henrietta	20	Union No. 2	67
Hercules	18	Virgil G. Bogue	159
Ida W.	16	Walter Hackett	22
Iolanda	31	Water Nymph	15
Klihyam	55		

United States Government vessels docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Name.	Class.	Net tonnage.
Active	Navy tug	87
Argonaut	Quarantine tug	127
Bear	Revenue cutter	714
Burnside	Army cable steamer	1,405
Colonel George Armistead	Mine planter	304
Crook	Transport	2,703
Explorer	Surveying steamer	228
Fortune	Navy tug	90
General Mifflin	Army tug	250
Glacier	Refrigerator ship	2,667
Golden Gate	Revenue cutter	220
Grampus	Submarine	102
Hartley	Revenue cutter	48*
Inspector	Immigration tug	15
Kukui	Lighthouse tender	300
Madrono	Lighthouse tender	206
No. 70	Lightship	225
No. 76	Lightship	225
No. 83	Lightship	225
No. 88	Lightship	225
No. 92	Lightship	225
No. 93	Lightship	225
Perry	Revenue cutter	282
Pike	Submarine	102
Sequoia	Lighthouse tender	300
Slocum	Army tug	337
Unadilla	Navy tug	109
Vigilant	Navy tug	89

* Displacement.

United States Army Transports docking at Folsom-street Wharf No. 1 (State Property Rented by Federal Government) during the two fiscal years from July 1, 1908, to June 30, 1910.

Name.	Net tonnage.	Arrivals.	Product of arrivals multiplied by net tonnage.
Buford	3,621	7	25,347
Crook	2,703	4	10,812
Logan	3,653	11	40,183
Sheridan	3,654	15	54,810
Sherman	3,725	2	7,450
Thomas	3,653	14	51,142
Totals	21,099	53	189,744

During the two fiscal years these transports loaded 30,582 tons and discharged 6,211 tons of Government freight.

Recapitulation of Vessels docking at the State Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

(Barges and lighters are not included.)

Class.	American.		Austrian.		British.		Chilean.		French.		German.		Italian.		Japanese.		Norwegian.		Total.	
	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.
Ocean steamers	237	266,586	1	2,416	51	149,780			8	30,645	32	109,472			3	17,957	14	40,318	346	617,174
Bay and river steamers	74	32,348																	74	32,348
Tugs	55	2,950																	55	2,950
Government vessels*	38	12,035																	38	12,035
Ships, barks, etc.	103	129,799			39	76,659	1	1,176	34	68,101	8	20,684	1	1,683			2	2,844	188	300,946
Schooners	272	68,885									1	150							273	69,035
Sloops	9	86															1	47	10	133
Totals	788	512,689	1	2,416	90	226,439	1	1,176	42	98,746	41	130,306	1	1,683	3	17,957	17	43,209	984	1,034,621

* Does not include Army transports docking at Folsom-street Wharf No. 1. See page 109.

Ocean Steamers arriving at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910.

NOTE.—By "arrival" is meant arrival in port, accompanied by docking at the State wharves. Arrivals without docking at the State wharves are not recorded. There may be more than one docking for any arrival. Net tonnage is by American measurement wherever obtainable; where not obtainable, it is by Lloyds, and marked*.

Nationality.	Name.	Arrivals.	Net tonnage.	Product of arrivals multiplied by net tonnage.
American	Aberdeen	31	394	12,241
American	Acapulco	5	1,759	8,795
American	Acme	50	269	13,450
American	Admiral Sampson	46	1,432	65,872
American	Alameda	13	1,939	25,207
American	Alaskan	5	5,621	28,105
American	Albion	51	140	7,140
American	Alcatraz	35	193	6,755
American	Alitak	2	73	146
American	Aquilo (yacht)	1	103	103
American	Arcata	2	415	830
American	Arctic	23	277	6,371
American	Argyll	1	1,880	1,880
American	Arizonan	4	5,621	22,484
American	Aurelia	18	233	4,194
American	Aztec	5	2,298	11,490
British	Ardmount	1	2,577	2,577
British	Ashtabula	1	4,541	4,541
British	Asia	5	2,936*	14,680
French	Amiral Duperre	1	3,254	3,254
French	Amiral Exelmans	2	3,221	6,442
French	Amiral Fourichon	2	3,186*	6,372
French	Amiral Olry	1	3,570	3,570
German	Amasis	2	2,938	5,876
German	Anubis	1	3,089*	3,089
German	Assuan	1	3,081*	3,081
German	Augustus	1	3,783	3,783
Norwegian	Aagot	2	2,931	5,862
Norwegian	Alden	1	2,340*	2,340
American	Bandon	27	350	9,450
American	Bear	7	2,779	19,453
American	Beaver	3	2,779	8,337
American	Bee	19	375	7,125
American	Bowdoin	12	448	6,376
American	Breakwater	2	793	1,586
American	Brooklyn	36	216	7,776
American	Brunswick	51	349	17,799
American	Buckman	29	1,259	36,511
British	Bannockburn	1	4,052	4,052
British	Bessie Dollar	2	3,682	7,364
American	Capastrano	17	362	6,154
American	Carlos	39	541	21,099
American	Carmel	21	401	8,421
American	Cascade	20	339	6,780
American	Casco	23	298	6,854
American	Centralia	35	324	11,340
American	Charles Nelson	21	397	8,337
American	Chehalis	31	421	13,051
American	Chilkat	1	98	98
American	China	5	3,186	15,930
American	City of Panama	4	1,046	4,184
American	City of Para	6	2,504	15,024
American	City of Puebla	21	1,712	35,952
American	City of Sydney	6	1,965	11,790
American	City of Topeka	57	746	42,522
American	Claremont	26	418	10.868
American	Coaster	23	353	8.119
American	Colonel E. L. Drake	2	3,307	6,614
American	Columbian	8	5,598	44,784
American	Coos Bay	39	403	15,717
American	Coquille River	3	265	795
American	Coronado	33	381	12.573
American	Curacao	8	895	7.160
American	Czarina	12	793	9,516
British	Celtic King	1	2,589*	2,589
British	Century	3	3,023	9.069
British	Chatham	1	3,036	3,036
British	Clan Macinnes	1	3,791	3,791
British	Claverley	1	2,639	2,639
German	Cleveland	1	10,300	10,300
Japanese	Chiyo Maru	4	7,250	29.000
American	Daisy	26	379	9.854

Ocean Steamers arriving at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910—*Continued.*

Nationality.	Name.	Arrivals.	Net tonnage.	Product of arrivals multiplied by net tonnage.
American	Daisy Freeman	22	436	9,592
American	Daisy Mitchell	24	395	9,480
American	Delhi	6	582	3,492
American	Del Norte	37	279	10,323
American	Despatch	16	539	8,624
American	Doris	18	425	7,650
British	Dakotah	4	2,593*	10,372
American	Elizabeth	35	284	9,940
American	Enterprise	11	1,681	18,491
American	Eureka	11	312	3,432
American	Excelsior	20	261	5,220
American	Expansion	1	113	113
British	Earl of Elgin	1	3,598	3,598
British	El Lobo	1	2,948*	2,948
British	English Monarch	1	3,471	3,471
German	Ella	6	2,250*	13,500
German	Erna	6	2,173*	13,038
American	F. A. Kilburn	84	458	38,472
American	F. S. Loop	22	445	9,790
American	Fairhaven	16	437	6,992
American	Fair Oaks	15	533	7,995
American	Falcon	28	955	26,740
American	Fifield	36	440	15,840
American	Francis H. Leggett	16	975	15,600
American	Fulton	31	265	8,215
American	G. C. Lindauer	27	287	7,749
American	George Loomis	18	401	7,218
American	Geo. F. Haller	2	81	162
American	Geo. W. Elder	51	1,224	62,424
American	George W. Fenwick	10	1,193	11,930
American	Governor	45	2,401	108,045
American	Grace Dollar	20	289	5,780
American	Gray's Harbor	20	374	7,480
American	Greenwood	11	144	1,584
American	Gualala	33	158	5,214
American	Hanalei	65	502	32,630
American	Harold Dollar	14	607	8,498
American	Helene	22	307	6,754
American	Helen P. Drew	37	178	6,586
American	Herman (whaler)	1	229	229
American	Hilonian	12	1,819	21,828
American	Homer	6	331	1,986
American	Hoquiam	17	440	7,480
American	Hornet	16	402	6,432
American	Humboldt	2	688	1,376
American	Hyades	8	2,932	23,456
Austrian	Hermine	1	2,416*	2,416
British	Hazel Dollar	1	3,581	3,581
British	Hyndford	2	3,506	7,012
German	Hermonthis	2	3,174	6,348
Norwegian	Hercules	1	3,411	3,411
Norwegian	Herm	1	2,751	2,751
Norwegian	Hornelen	3	2,660	7,980
American	Iaqua	22	462	5,082
American	Isthmian	4	3,463	13,852
British	Induna	1	3,681	3,681
British	Inverkip	1	3,589	3,589
British	Inverness	1	2,428	2,428
British	Invertay	1	3,766	3,766
German	Itauri	2	2,941*	5,882
American	J. Marhoffer	18	334	6,012
American	J. A. Chanslor	1	3,121	3,121
American	J. B. Stetson	29	521	15,109
American	J. J. Loggie	32	220	7,040
American	J. L. Luckenbach	2	3,192	6,384
American	James S. Higgins	63	249	15,687
American	Jeanette (whaler)	1	217	217
American	Jeanie	2	862	1,724
American	Jennie	2	69	138
American	Jim Butler	24	343	8,232
American	Johan Poulsen	22	423	9,306
British	Janeta	1	3,136	3,136
American	Kadiak	2	58	116
American	Kansas City	20	2,163	43,260
American	Katherine	25	292	7,300
American	Klamath	17	662	11,254

Ocean Steamers arriving at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910—*Continued.*

Nationality.	Name.	Arrivals.	Net tonnage.	Product of arrivals multiplied by net tonnage.
American	Korea	6	5,651	33,906
American	Kvichak	2	610	1,220
British	Katanga	3	2,321	6,963
British	Kilburn	2	2,196	4,392
British	Knight of St. George	1	3,154	3,154
American	Lakme	18	404	7,272
American	Lansing	2	3,428	6,858
American	Leelanaw	6	1,377	8,262
American	Lehua	2	129	258
American	Lucy Neff	15	759	11,385
American	Lurline	14	3,725	52,150
American	M. F. Plant	48	941	45,168
American	Mackinaw	2	2,005	4,010
American	Majestic	7	449	3,143
American	Manchuria	4	8,750	35,000
American	Mandalay	42	266	11.172
American	Mariposa	11	1,939	21,329
American	Marshfield	16	294	4,704
American	Mayfair	24	420	10,080
American	Melville Dollar	14	921	12,894
American	Mexican	7	5,598	39,186
American	Missourian	7	5,077	35,539
American	Mongolia	5	8,750	43,750
American	Montara	6	1,695	10,170
British	M. S. Dollar	2	2,699	5,398
British	Magdala	1	3,543	3,543
British	Mancunia	1	2,287*	2,287
American	Nann Smith	17	1,192	20,264
American	National City	60	220	13,200
American	Navarro	27	171	4,617
American	Nebraskan	11	2,824	31.064
American	Nevadan	13	2,824	36,712
American	Newburg	25	333	8,325
American	Newport	6	1,806	10.836
American	Nome City	25	597	14.925
American	North Fork	42	244	10,248
American	Northland	20	560	11,200
American	Norwood	37	492	18,204
American	Noyo	32	229	7,328
American	Nushagak	2	478	956
Japanese	Nippon Maru	5	3,442	17,210
American	Olson & Mahony	18	779	14.022
American	Olympic	6	454	2,724
British	Oberon	1	3,161	3,161
American	Pasadena	16	235	3,760
American	Pennsylvania	6	2,567	15,402
American	Peru	6	2,539	15,234
American	Phœnix	34	160	5,440
American	Pleiades	11	2,932	32,252
American	Point Arena	34	171	5,814
American	Pomo	54	235	12,690
American	Prentiss	35	267	9,345
American	President	45	2,393	107,685
American	Queen	25	1,672	41,800
American	Quinault	24	426	10,224
American	Rainier	22	519	11,418
American	Ramona	2	671	1,342
American	Ravalli	38	777	29.526
American	Raymond	22	350	7,700
American	Redondo	35	462	16,170
American	Riverside	9	955	8,595
American	Roanoke	52	1,654	86,008
American	Roma	1	2,164	2,164
American	Rose City	25	2,154	53,850
British	River Clyde	1	2,738	2,738
British	Riverdale	1	3,408	3,408
German	Radames	1	3,119*	3.119
German	Ramses	1	2,352	2,352
American	Saginaw	21	498	10,458
American	St. Croix	18	1,064	19,152
American	St. Helens	11	779	8,569
American	Samoa	59	237	13,983
American	San Gabriel	2	312	624
American	San Jacinto	22	352	7,744
American	San Jose	5	1,538	7,690
American	San Juan	5	1,496	7,480

Ocean Steamers arriving at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910—*Continued.*

Nationality.	Name.	Arrivals	Net tonnage.	Product of arrivals multiplied by net tonnage.
American	San Pedro	32	359	11,488
American	Santa Barbara	37	527	19,499
American	Santa Clara	12	1,208	14,496
American	Santa Monica	31	318	9,858
American	Santa Rosa	64	1,335	85,440
American	Sea Foam	48	205	9,840
American	Senator	7	1,835	12,845
American	Shasta	14	517	7,238
American	Shna Yak	15	452	6,780
American	Shoshone	28	341	9,548
American	Siberia	5	5,655	28,275
American	Sierra	5	3,756	18,780
American	South Bay	1	279	279
American	South Coast	41	225	9,225
American	Spokane	3	1,289	3,867
American	Stanley Dollar	12	955	11,460
American	State of California	28	1,260	35,280
American	Svea	26	370	9,620
British	Seminole	2	3,798	7,596
British	Strathlorne	1	3,573	3,573
British	Strathspey	1	3,017	3,017
British	Strathtay	1	2,850*	2,850
German	Sais	2	4,091	8,182
German	Salatis	2	4,453	8,906
German	Serak	2	3,819	7,638
German	Setos	2	4,492	8,984
German	Sisak	1	3,845	3,845
Norwegian	Selja	1	2,789	2,789
American	Tahoe	17	419	7,323
American	Tallac	14	1,103	15,442
American	Tamalpais	26	422	10,972
American	Tampico	10	1,451	14,510
American	Temple E. Dorr	16	453	7,248
American	Texan	1	5,636	5,636
American	Thomas L. Wand	18	413	7,434
American	Tiverton	22	336	7,392
British	Taunton	1	2,461*	2,461
British	Tonawanda	2	2,183	4,366
British	Tymeric	2	2,324	4,648
Norwegian	Thode Fagelund	1	3,095	3,095
Norwegian	Thor	10	3,152	31,520
Norwegian	Titania	3	2,315*	6,945
Norwegian	Tordenskjold	1	2,527	2,527
Norwegian	Tricolor	2	3,283	6,566
Japanese	Tenyo Maru	5	7,265	36,325
American	Umatilla	16	2,168	34,688
American	Unimak	2	158	316
German	Uarda	2	3,853	7,706
American	Vanguard	44	228	10,032
American	Virginian	6	5,077	30,462
American	Washcalore	12	174	2,088
American	Washtenaw	1	2,003	2,003
American	Wasp	16	360	5,760
American	Watson	28	1,237	34,636
American	Wellesley	14	430	6,020
American	Westerner	20	369	7,380
American	Westport	31	154	4,774
American	Whitesboro	46	144	6,624
American	Whittier	14	798	11,172
American	Wilhelmina	6	4,402	26,412
American	Willapa	19	433	8,227
American	William H. Murphy	6	673	4,038
American	Winnebago	1	500	500
American	W. S. Porter	2	3,524	7,048
British	Wellington	6	1,267*	7,602
German	Walkure	1	2,520	2,520
German	Wotan	1	2,463	2,463
American	Yellowstone	32	456	14,592
American	Yosemite	38	525	19,950
	Totals	4,407		3,612,420

Sailing Vessels, other than Schooners and Sloops, docking at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910.

NOTE.—By "arrival" is meant arrival in port, accompanied by docking at the State wharves. Arrivals without docking at the State wharves are not recorded. There may be more than one docking for any arrival. Net tonnage of American vessels is by American measurement; of foreign vessels, by Lloyds measurement.

Nationality.	Rig.	Name.	Arrivals.	Net tonnage.	Product of arrivals multiplied by net tonnage.
American	Ship	Abner Coburn	1	1,878	1,878
American	Ship	Acme	1	2,987	2,987
American	Ship	Alex. Gibson	1	2,043	2,043
American	Barkentine	Amaranth	1	1,062	1,062
American	Barkentine	Amazon	1	1,105	1,105
American	Bark	Andrew Welch	1	863	863
American	Bark	Annie Johnson	3	976	2,928
American	Ship	Aryan	1	1,939	1,939
American	Ship	Astral	1	2,987	2,987
British	Bark	Antiope	1	1,380	1,380
French	Bark	Anne de Bretagne	1	1,571	1,571
American	Bark	B. P. Cheney	1	1,200	1,200
American	Ship	Bohemia	1	1,528	1,528
British	Bark	Balasore	1	2,562	2,562
British	Ship	Blackbraes	1	2,116	2,116
British	Bark	British Yeoman	1	1,869	1,869
British	Ship	Buccleuch	1	1,934	1,934
French	Bark	Bayard	1	1,970	1,970
French	Ship	Bayonne	1	2,241	2,241
French	Bark	Boieldieu	1	1,981	1,981
French	Bark	Brenn	1	1,950	1,950
French	Bark	Brizeux	1	1,963	1,963
American	Barkentine	Centennial	1	1,138	1,138
American	Ship	Charles E. Moody	1	1,734	1,734
American	Barkentine	Charles F. Crocker	1	762	762
American	Barkentine	City of Papeete	1	370	370
American	Barkentine	Coronado	2	1,007	2,014
British	Bark	California	1	2,461	2,461
British	Bark	Colony	1	1,598	1,598
American	Bark	Diamond Head	1	952	952
British	Bark	Dowan Hill	1	1,976	1,976
British	Bark	Drummuir	1	1,798	1,798
British	Ship	Dunsyre	1	2,056	2,056
American	Barkentine	Echo	1	650	650
American	Bark	Electra	1	939	939
American	Bark	Emily F. Whitney	1	1,207	1,207
British	Barkentine	Everett G. Griggs	1	2,351	2,351
French	Bark	Emilie Siegfried	1	2,754	2,754
French	Bark	Ernest Siegfried	1	2,754	2,754
German	Bark	Edmund	1	2,914	2,914
American	Barkentine	Fremont	1	328	328
American	Bark	Fresno	1	1,149	1,149
American	Barkentine	Fullerton	1	1,494	1,494
French	Bark	Francoise d'Amboise	1	1,741	1,741
American	Barkentine	Gardiner City	3	451	1,353
American	Bark	Gayhead (whaler)	1	252	252
American	Brigantine	Geneva	1	451	451
American	Bark	George Curtis	1	1,680	1,680
American	Barkentine	Gleaner	1	392	392
American	Ship	Governor Robie	1	1,481	1,481
British	Bark	Glenmark	1	1,252	1,252
French	Bark	Grande Duchesse Olga	1	1,748	1,748
American	Ship	Henry Failing	1	1,824	1,824
British	Bark	Holt Hill	1	2,269	2,269
British	Bark	Hougomont	1	2,239	2,239
American	Ship	Indiana	1	1,413	1,413
American	Barkentine	Irmgard	2	614	1,228
American	Bark	Isaac Reed	1	1,488	1,488
American	Bark	James Nesmith	1	1,632	1,632
American	Barkentine	James Tuft	1	1,043	1,043
American	Bark	John and Winthrop (whaler)	1	321	321
American	Barkentine	John C. Meyer	1	794	794
American	Ship	John Ena	1	2,706	2,706
American	Barkentine	Kohala	2	776	1,552
American	Bark	Koko Head	1	1,011	1,011
American	Barkentine	Lahaina	1	994	994
American	Bark	Levi G. Burgess	2	1,475	2,590
American	Ship	Llewellyn J. Morse	1	1,271	1,271
French	Bark	Leon Blum	1	2,316	2,316

Sailing Vessels, other than Schooners and Sloops, docking at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910—*Continued.*

NOTE.—By "arrival" is meant arrival in port, accompanied by docking at the State wharves. Arrivals without docking at the State wharves are not recorded. There may be more than one docking for any arrival. Net tonnage of American vessels is by American measurement; of foreign vessels, by Lloyds measurement.

Nationality.	Rig.	Name.	Arrivals.	Net tonnage.	Product of arrivals multiplied by net tonnage.
American	Ship	Manga Reva	1	2,052	2,052
American	Barkentine	Mary Winkelman	1	482	482
British	Bark	Musselcrag	1	1,871	1,871
French	Bark	Mezly	1	1,391	1,391
German	Bark	Mariechen	1	2,291	2,291
American	Barkentine	Newsboy	1	509	509
American	Bark	Olympic	1	1,353	1,353
American	Ship	Oriental	1	1,550	1,550
American	Bark	Pactolus	1	1,564	1,564
American	Bark	Paramita	1	1,444	1,444
American	Barkentine	Puako	1	1,011	1,011
British	Bark	Pegasus	1	2,438	2,438
British	Bark	Poltalloch	1	2,139	2,139
American	Bark	R. P. Rithet	5	1,043	5,215
American	Barkentine	Retriever	1	470	470
French	Bark	Rene	1	1,976	1,976
German	Bark	R. C. Rickmers	1	4,696	4,696
American	Barkentine	S. G. Wilder	5	557	2,785
American	Barkentine	S. N. Castle	3	464	1,392
American	Ship	St. Francis	1	1,757	1,757
American	Bark	St. Katherine	3	1,090	3,270
American	Ship	Santa Clara	1	1,453	1,453
American	Ship	Shenandoah	1	3,154	3,154
American	Ship	Sintram	1	1,495	1,495
American	Ship	Standard	1	1,461	1,461
American	Ship	Star of Alaska	1	1,554	1,554
American	Bark	Star of Chile	1	874	874
American	Bark	Star of England	1	1,705	1,705
American	Bark	Star of Finland (formerly Kaiulani)	1	1,430	1,430
American	Ship	Star of France	1	1,522	1,522
American	Ship	Star of Greenland (formerly Hawaiian Isles)	1	1,974	1,974
American	Bark	Star of Holland (formerly Homeward Bound)	1	1,987	1,987
American	Bark	Star of Iceland (formerly Willscott)	1	1,856	1,856
American	Bark	Star of India	1	1,247	1,247
American	Ship	Star of Italy	1	1,474	1,474
American	Bark	Star of Peru	1	976	976
American	Ship	Star of Russia	1	1,898	1,898
American	Ship	Star of Scotland	1	1,898	1,898
British	Bark	Simla	1	2,087	2,087
British	Bark	Strathgryfe	1	2,190	2,190
French	Bark	St. Louis	1	1,779	1,779
American	Ship	Tacoma	1	1,671	1,671
American	Barkentine	Thos. P. Emigh	1	923	923
British	Bark	Tinto Hill	1	2,067	2,067
French	Ship	Thiers	1	2,251	2,251
French	Bark	Ville du Havre	1	2,446	2,446
French	Bark	Ville de Mulhouse	1	2,798	2,798
American	Ship	William P. Frye	1	2,998	2,998
British	Ship	Wiscombe Park	1	2,075	2,075
		Totals	138	----------	206,004

Recapitulations of arrivals of ocean steamers and square-rigged sailing vessels at the State Wharves of San Francisco during the fiscal year from July 1, 1909, to June 30, 1910.

Class.	American.		Austrian.		British.		French.		German.		Japanese.		Norwegian.		Totals.	
	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.
Ocean steamers	4,262	3,138,356	1	2,416	61	173,077	6	19,638	37	120,612	14	82,535	26	75,786	4,407	3,612,420
Ships	27	51,950			4	8,181	2	4,492							33	64,623
Barks	35	41,493			16	32,196	15	31,138	3	9,901					69	114,728
Barkentines	34	23,851			1	2,351									35	26,202
Brigantine	1	451													1	451
Totals	4,359	3,256,101	1	2,416	82	215,805	23	55,268	40	130,513	14	82,535	26	75,786	4,545	3,818,424

ein amers Docking at the Wharves of San Francisco during the two fiscal years from July 1, 1908, to June 30, 1910.

Arranged according to net tonnage.

Over 8,000 tons	3
From 7,000 to 8,000 tons	2
From 6,000 to 7,000 tons	0
From 5,000 to 6,000 tons	12
From 4,000 to 5,000 tons	6
From 3,000 to 4,000 tons	51
From 2,000 to 3,000 tons	43
From 1,000 to 2,000 tons	39
From 500 to 1,000 tons	29
Under 500 tons	161
Total	346

NOTE.—The largest steamer which docked at the State wharves was the German steamer Cleveland, of 10,300 net tons. The largest sailing vessel was the German 5-masted bark R. C. Rickmers, of 4,696 net tons.

Principal Ocean Steamship lines regularly using the State Wharves of San Francisco.

I. FOREIGN-GOING (HAWAII INCLUDED).

Pacific Mail S. S. Co. Honolulu, Yokohama, Kobe, Nagasaki, Manila, Shanghai, Hong Kong.

S. S. Asia	2,936 tons	S. S. Manchuria	8,750 tons
S. S. China	3,186 tons	S. S. Mongolia	8,750 tons
S. S. Korea	5,651 tons	S. S. Siberia	5,655 tons

Mexican and Central American ports, and Ancon, Canal Zone.

S. S. Acapulco	1,759 tons	S. S. Newport	1,806 tons
S. S. Aztec	2,298 tons	S. S. Pennsylvania	2,567 tons
S. S. City of Panama	1,046 tons	S. S. Peru	2,539 tons
S. S. City of Para	1,504 tons	S. S. San Jose	1,538 tons
S. S. City of Sidney	1,965 tons	S. S. San Juan	1,496 tons

Toyo Kisen Kaisha. Yokohama, Kobe, Nagasaki, Shanghai, Hong Kong, Manila.

S. S. Chiyo Maru	7,250 tons	S. S. Tenyo Maru	7,265 tons
S. S. Nippon Maru	3,442 tons		

Australian Mail Line. Sydney, Auckland.

S. S. Alden	2,340 tons	S. S. Hyndford	3,506 tons
S. S. Boveric	3,722 tons	S. S. Inveric	3,387 tons
S. S. Celtic King	2,589 tons	S. S. Katanga	2,321 tons
S. S. Century	3,023 tons	S. S. Kilburn	2,196 tons
S. S. Foreric	3,119 tons	S. S. Tymeric	2,324 tons
S. S. Gymeric	3,144 tons		

Kosmos Line. Ports on the west coast of Mexico, Central and South America; London, Hamburg.

S. S. Amasis	2,938 tons	S. S. Ramses	2,352 tons
S. S. Ammon	2,944 tons	S. S. Sais	4,091 tons
S. S. Anubis	3,089 tons	S. S. Sakkarah	3,928 tons
S. S. Assuan	3,081 tons	S. S. Salatis	4,453 tons
S. S. Hermonthis	3,174 tons	S. S. Serak	3,819 tons
S. S. Itauri	2,941 tons	S. S. Serapis	3,933 tons
S. S. Memphis	2,519 tons	S. S. Setos	4,492 tons
S. S. Mera	3,087 tons	S. S. Sisak	3,845 tons
S. S. Radames	3,119 tons	S. S. Uarda	3,853 tons

American-Hawiian S. S. Co. Salina Cruz, Honolulu, Seattle.

S. S. Alaskan	5,621 tons	S. S. Mexican	5,598 tons
S. S. Arizonan	5,621 tons	S. S. Missourian	5,077 tons
S. S. Columbian	5,598 tons	S. S. Nebraskan	2,824 tons
S. S. Falcon	955 tons	S. S. Pleiades	2,932 tons
S. S. Isthmian	3,463 tons	S. S. Virginian	5,077 tons

Oceanic S. S. Co. Honolulu, Tahiti, New Zealand.

S. S. Almeda	1,939 tons	S. S. Sierra	3,756 tons
S. S. Mariposa	1,939 tons		

Chargeurs Reunis. Mexican ports, Montevideo, Buenos Ayres, Swansea, Liverpool, Avonmouth, Dunkirk, Havre, Antwerp.

S. S. Admiral Duperre	3,254 tons	S. S. Admiral Exelmans	3,221 tons
S. S. Admiral Magon	3,588 tons	S. S. Admiral Olry	3,570 tons
S. S. Admiral Fourichon	3,186 tons	S. S. Admiral Hamelin	3,188 tons

German Mexican Line. Mazatlan, Corinto, and other Central American ports.

S. S. Ella	2,250 tons	S. S. Erna	2,173 tons

Dollar S. S. Co. Chinese and Japanese ports.

S. S. Bessie Dollar	3,862 tons	S. S. M. S. Dollar	2,713 tons
S. S. Hazel Dollar	3,581 tons		

Matson Navigation Co. Honolulu, Hilo, Kahului, and other Hawaiian ports.

S. S. Enterprise	1,681 tons	S. S. Lurline	3,725 tons
S. S. Hilonian	1,819 tons	S. S. Nevadan	2,824 tons
S. S. Hyades	2,932 tons	S. S. Wilhelmina	4,402 tons

Principal Ocean Steamship lines using State Wharves—*Continued.*

II. COASTWISE.

(Steamers marked * carry freight only.)

Union Lumber Co. Fort Bragg.

S. S. Arctic	277 tons	S. S. National City	220 tons
S. S. Brunswick	349 tons	S. S. Noyo*	229 tons

Hammond Lumber Co. Eureka, Arcata, Field's Landing, etc.

S. S. Francis H. Leggett	975 tons	S. S. Ravalli*	777 tons
S. S. Geo. W. Fenwick*	1,193 tons		

Hobbs, Wall & Co. Crescent City.

S. S. Del Norte	279 tons	S. S. Mandalay*	266 tons
S. S. Navarro*	171 tons	S. S. Westport*	154 tons

Robert Dollar Co. Alaskan, Puget Sound, and Mexican ports.

S. S. Delhi	582 tons	S. S. Melville Dollar*	921 tons
S. S. Grace Dollar	289 tons	S. S. Stanley Dollar*	955 tons
S. S. Harold Dollar	607 tons		

Pacific Coast Steamship Co. Alaskan and Puget Sound ports, Eureka, Santa Barbara. Los Angeles, San Diego ports.

S. S. City of Puebla	1,712 tons	S. S. President	2,393 tons
S. S. City of Topeka	746 tons	S. S. Queen	1,672 tons
S. S. Coos Bay	403 tons	S. S. Senator	1,835 tons
S. S. Curacao	895 tons	S. S. State of California	1,260 tons
S. S. Governor	2,401 tons	S. S. Tampico	1,451 tons

Alaska-Pacific S. S. Co. Los Angeles, Puget Sound, and Alaskan ports.

S. S. Admiral Sampson	1,432 tons	S. S. Watson	1,237 tons
S. S. Buckman	1,259 tons		

North Pacific S. S. Co. Eureka, Field's Landing, Arcata, Astoria, Portland.

S. S. Eureka	312 tons	S. S. Roanoke	1,654 tons
S. S. F. A. Kilburn	458 tons	S. S. Santa Clara	1,208 tons
S. S. Geo. W. Elder	1,224 tons		

West Coast S. S. Line. Los Angeles ports.

S. S. Capastrano*	362 tons	S. S. Excelsior*	281 tons
S. S. Carlos	541 tons	S. S. Homer	331 tons
S. S. Carmel*	401 tons		

Pollard S. S. Co. Astoria, Portland, Gray's Harbor, Puget Sound ports.

S. S. Centralia	324 tons	S. S. Newburg	333 tons
S. S. Coronado	381 tons	S. S. Rainier	519 tons
S. S. Fair Oaks	533 tons	S. S. Tallac*	1,103 tons

J. R. Hanify & Co. Los Angeles ports.

S. S. Santa Barbara*	527 tons	S. S. Santa Monica	318 tons

Henry Templeman. Point Arena, Mendocino, Caspar, Albion, Greenwood, Whitesboro, etc.

S. S. Brooklyn	216 tons	S. S. Sea Foam	205 tons
S. S. Phoenix	160 tons		

Fred Linderman. Eureka.

S. S. Bee*	375 tons	S. S. Hornet*	402 tons
S. S. Gualala*	158 tons	S. S. Wasp*	360 tons

Charles Nelson Co. Eureka, Puget Sound ports.

S. S. Charles Nelson	397 tons	S. S. North Fork	244 tons
S. S. Lakme*	404 tons	S. S. Riverside*	955 tons

E. K. Wood Lumber Co. Hoquaim, Puget Sound ports.

S. S. Olympic*	454 tons	S. S. Shasta*	517 tons
S. S. San Jacinto*	352 tons	S. S. Tamalpais	422 tons

Geo. S. Beadle, Inc. Northern California and Oregon ports.

S. S. J. Marhoffer* (lost)	334 tons	S. S. Mayfair*	420 tons

Principal Ocean Steamship lines using State Wharves—*Continued.*

P. L. Transportation Co. Eureka.

S. S. Aberdeen	394 tons	S. S. Temple E. Door*	453 tons
S. S. Despatch	539 tons	S. S. William H. Murphy*	673 tons
S. S. Prentiss	267 tons		

Chas. R. McCormich Co. Astoria and Portland.

S. S. Klamath	662 tons	S. S. Yellowstone*	456 tons
S. S. Shoshone*	341 tons	S. S. Yosemite	525 tons

Hart-Wood Lumber Co. Gray's Harbor, Aberdeen, Hoquiam, and other Washington ports.

S. S. Claremont*	418 tons	S. S. Saginaw*	498 tons
S. S. Quinault	426 tons		

S. S. Freeman & Co. Puget Sound ports.

S. S. Daisy*	379 tons	S. S. Daisy Mitchell	395 tons
S. S. Daisy Freeman*	436 tons		

Chas. H. Higgins & Co. San Pedro, Fort Bragg.

S. S. Coaster*	353 tons	S. S. Jas. S. Higgins	249 tons

Loop Lumber Co. Columbia River ports.

S. S. F. S. Loop*	445 tons	S. S. Johan Poulsen*	423 tons

Independent S. S. Co. Los Angeles ports.

S. S. Hanalei	502 tons	S. S. Nome City	597 tons

Olson-Mahony S. S. Line. Puget Sound ports, Portland, Astoria.

S. S. Jim Butler*	343 tons	S. S. Olson & Mahony*	779 tons

Swayne & Hoyt. Portland, Astoria.

S. S. Caseo*	298 tons	S. S. Pomo	235 tons

E. F. Estabrook Co. Oregon ports.

S. S. Bandon*	350 tons	S. S. Fifield*	440 tons

Wilson Bros. Aberdeen.

S. S. G. C. Lindauer	287 tons	S. S. Svea*	370 tons

Sudden & Christensen. Gray's Harbor, Hoquiam, and other Washington ports.

S. S. Chehalis	421 tons	S. S. Raymond*	350 tons
S. S. Gray's Harbor*	374 tons	S. S. Willapa*	433 tons
S. S. Norwood	492 tons		

E. J. Dodge & Co. Oregon and Alaskan ports.

S. S. Northland	560 tons	S. S. Vanguard	228 tons
S. S. St. Helens*	779 tons		

Caspar Lumber Co. Caspar.

S. S. Samoa	237 tons	S. S. South Coast*	225 tons

J. O. Davenport. Puget Sound and Oregon ports.

S. S. Fairhaven*	437 tons	S. S. Tiverton*	336 tons

L. E. White Lumber Co. Northern California ports.

S. S. Alcatraz	193 tons	S. S. Whitesboro	144 tons
S. S. Helen P. Drew	178 tons		

F. and E. T. Kruse. Coquille River, Bandon, Prosper, Port Orford, etc.

S. S. Doris*	425 tons	S. S. Helene*	307 tons
S. S. Elizabeth	284 tons		

Bowes & Andrews. Puget Sound ports.

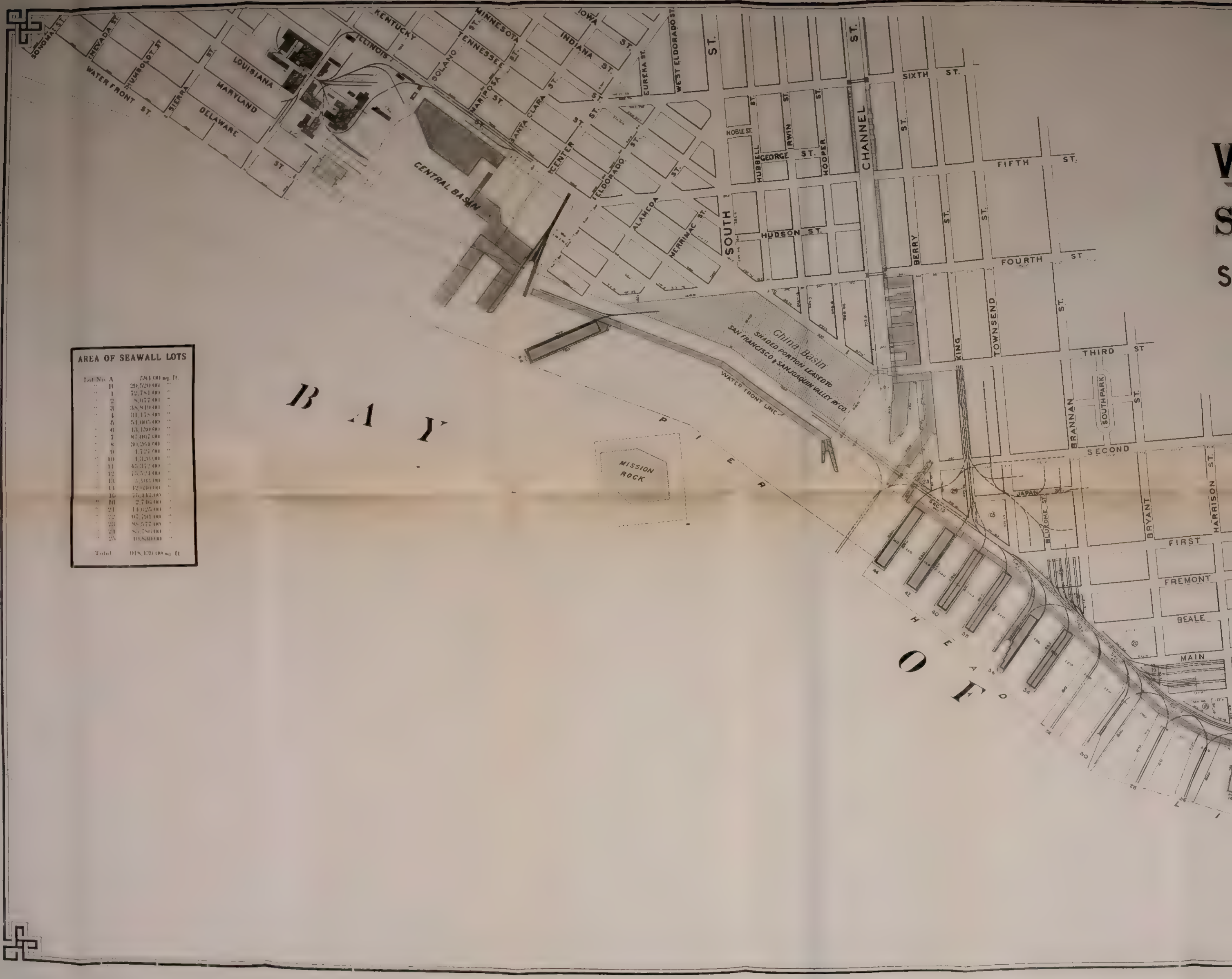
S. S. Hoquiam*	440 tons	S. S. Tahoe*	419 tons

W. G. Tibbitts. Puget Sound and Oregon ports.

S. S. Bowdoin*	448 tons	S. S. Wellesley*	430 tons

San Francisco and Portland S. S. Co. Portland.

S. S. Bear	2,779 tons	S. S. Kansas City	2,163 tons
S. S. Beaver	2,779 tons	S. S. Rose City	2,154 tons



AREA OF SEAWALL LOTS

Lot No.	A	584.00 sq. ft.
"	B	29,520.00 "
"	1	72,781.00 "
"	2	8,677.00 "
"	3	38,840.00 "
"	4	31,178.00 "
"	5	51,005.00 "
"	6	13,130.00 "
"	7	87,067.00 "
"	8	30,204.00 "
"	9	4,727.00 "
"	10	4,326.00 "
"	11	45,372.00 "
"	12	75,524.00 "
"	13	3,403.00 "
"	14	42,620.00 "
"	15	76,447.00 "
"	16	2,740.00 "
"	21	14,625.00 "
"	22	97,301.00 "
"	23	88,577.00 "
"	24	85,780.00 "
"	25	10,820.00 "
Total		918,130.00 sq. ft.

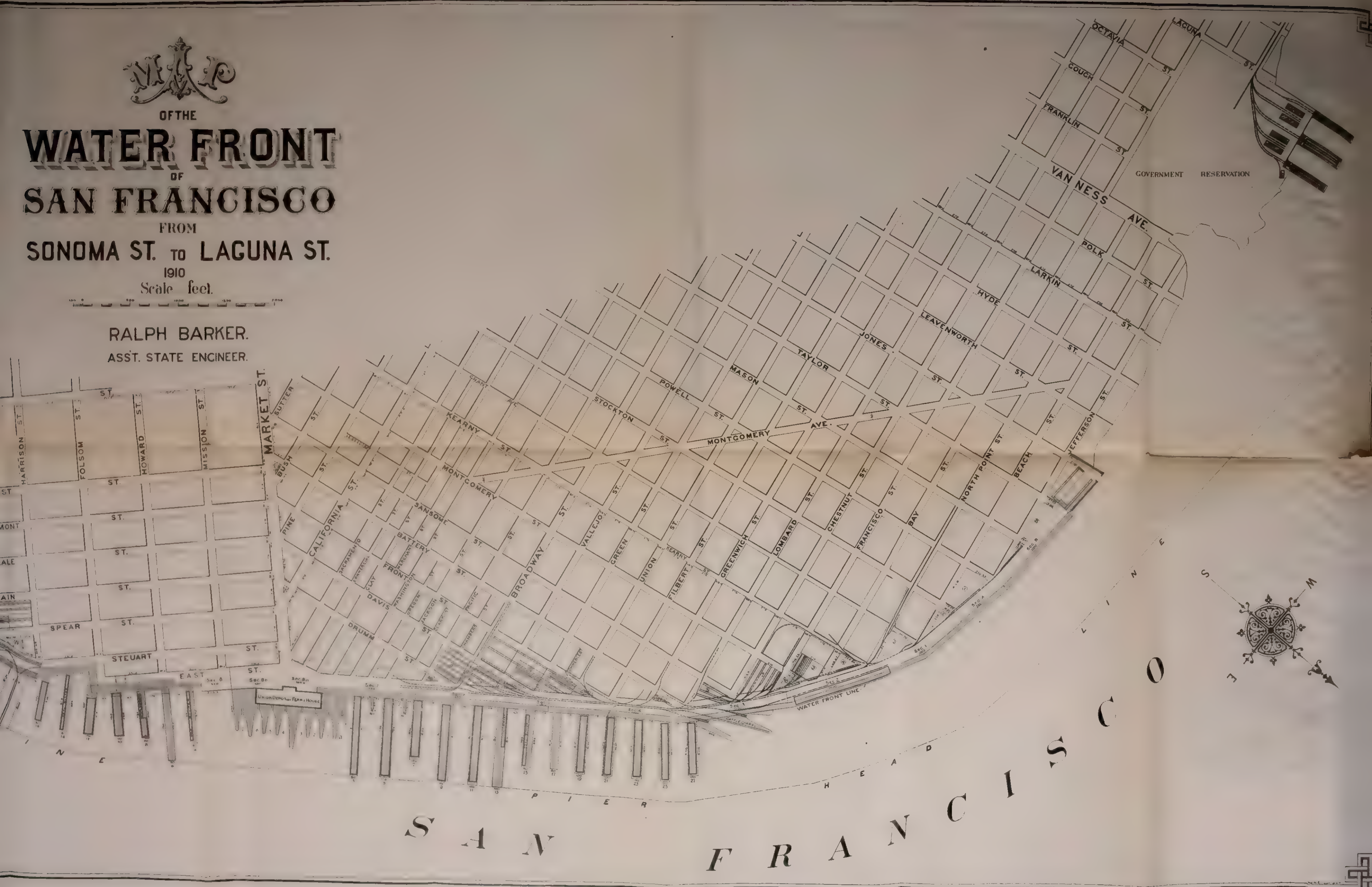
MAP OF THE WATER FRONT OF SAN FRANCISCO FROM SONOMA ST. TO LAGUNA ST.

1910

Scale feet.

RALPH BARKER.

ASS'T. STATE ENGINEER.



SAN DIEGO BAY.

BIENNIAL REPORT

OF THE

BOARD OF STATE HARBOR COMMISSIONERS

FOR THE

BAY OF SAN DIEGO

OCTOBER 1, 1910

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1910

BOARD OF STATE HARBOR COMMISSIONERS FOR THE BAY OF SAN DIEGO.

CHAS. W. OESTING	San Diego.
F. W. JACKSON	San Diego.
L. A. CREELMAN	San Diego.

OFFICERS.

CHAS. W. OESTING	President.
L. A. CREELMAN	Secretary.
T. M. SHAW	Harbor Master.
EUGENE DANEY	Attorney.

LETTER OF TRANSMITTAL.

San Diego, Cal., October 1, 1910.

To Hon. James N. Gillett,
Governor of the State of California.

Your Excellency: In accordance with the provisions of section 2592 of the Political Code, the Board of State Harbor Commissioners for the Bay of San Diego respectfully submits the following report for the two years beginning October 1, 1908, and ending September 30, 1910.

REPORT

OF THE

BOARD OF STATE HARBOR COMMISSIONERS FOR THE BAY OF SAN DIEGO.

CHANGES AND REORGANIZATION OF THE BOARD.

There has been a number of changes made in the personnel of the Board during the last two years, caused both by new appointments being made by the Governor to fill expired terms of commissioners, and a vacancy filled by the Board, caused by the death of the Harbor Master, Capt. W. H. Pringle.

April 16, 1909, L. A. Creelman appointed *vice* Capt. W. H. Pringle, term expired. April 16, 1909, F. W. Jackson appointed *vice* Eugene DeBurn, term expired. At a meeting of the Board held April 27, 1909, the Board was reorganized as follows:

CHAS. W. OESTING	President.
L. A. CREELMAN	Secretary.
F. W. JACKSON	Commissioner.
CAPT. W. H. PRINGLE	Harbor Master.
EUGENE DANEY	Attorney.

On March 21, 1910, occurred the death of Capt. W. H. Pringle after a very short illness. Captain Pringle had been a member of the Board for many years, both as Harbor Commissioner and Harbor Master, which last appointment he held at the time of his death. At the regular meeting held on April 5, 1910, suitable resolutions of respect were drafted, adopted, and ordered placed on the records of the Board. At this same meeting T. M. Shaw, of San Diego, was appointed as Harbor Master *vice* Capt. W. H. Pringle, deceased, leaving the personnel of the Board October 1, 1910, as given elsewhere in this report.

FINANCIAL STATEMENT.

Senate Bill No. 774, amending section 2584 of the Political Code, approved by the Governor March 20, 1905, went into effect April 1, 1905. The provisions of this law authorized the Board of State Harbor Commissioners for the Bay of San Diego to designate a bank in which shall be deposited all moneys received for the use of the bay and its tide lands, and to draw from the bank and pay the salaries of the members of the Board and all necessary expenses of the Board.

On the 20th day of June, 1905, the American National Bank of San Diego was designated by the Board as the bank of deposit.

On March 1, 1910, the following resolution was unanimously adopted:

> That the First National Bank of San Diego be designated as the depository of all funds in the control of this Board, and that the Secretary make the proper transfer.

RECEIPTS.	
1908—October 1, balance	$415 15
October	527 00
November	496 50
December	518 70
1909—January	442 00
February	495 50
March	398 75
April	447 00
May	628 00
June	519 00
July	473 50
August	479 50
September	482 00
October	548 00
November	480 00
December	465 00
1910—January	621 50
February	552 75
March	538 50
April	518 00
May	444 00
June	686 90
July	514 25
August	596 50
September	504 50
Total	$12,792 50

DISBURSEMENTS.	
1908—October	$422 50
November	526 25
December	477 05
1909—January	552 75
February	352 10
March	353 80
April	350 00
May	731 00
June	375 00
July	376 00
August	378 00
September	375 00
October	470 00
November	376 30
December	383 50
1910—January	375 00
February	417 25
March	250 00
April	500 00
May	381 00
June	378 00
July	378 00
August	378 00
September	384 50
Total	$9,941 00
Balance	$2,851 50

RECAPITULATION OF RECEIPTS AND DISBURSEMENTS.

Total receipts		$12,792 50
Disbursements—		
C. W. Oesting, salary	$675 00	
Capt. W. H. Pringle, salary	2,625 00	
Eugene Daney, salary	1,250 00	
Eugene DeBurn, salary	1,182 00	
L. A. Creelman, salary	2,125 00	
Fred W. Jackson, salary	425 00	
T. M. Shaw, salary	750 00	
New maps	28 00	
Office rent	600 00	
Stationery, postage, incidentals	281 00	
		9,941 00
Balance		$2,851 50

DISPUTED TITLES, ETC., BAY OF SAN DIEGO.

In 1907 the State Legislature appropriated $10,000, to be used in establishing the rights of the State to the tide lands of the bay of San Diego, the title to which was disputed. The Board has caused surveys and maps to be made of a portion of the bay shore preparatory to regaining the tide lands claimed adversely to the State.

The financial statement of this account is as follows:

1908.		
Oct. 1—Balance		$9,226 75
Oct. 6—G. A. DeHemecourt, voucher No. 10	$10 00	
Nov. 4—G. A. DeHemecourt, voucher No. 11	10 00	
Dec. 1—G. A. DeHemecourt, voucher No. 12	736 90	
1909.		
Jan. 7—G. A. DeHemecourt, voucher No. 13	862 80	
Feb. 2—G. A. DeHemecourt, voucher No. 14	448 50	
Mar. 2—G. A. DeHemecourt, voucher No. 15	323 00	
Apr. 6—G. A. DeHemecourt, voucher No. 16	656 15	
July 7—H B. Stewart, voucher No. 17	60 70	
July 7—G. A. DeHemecourt, voucher No. 18	201 80	
July 9—San Diego Boat House, voucher No. 19	6 00	
July 9—V. Bruschi & Co., voucher No. 20	12 00	
July 9—Fanning's Stables, voucher No. 21	36 00	
July 9—Pierce-Field Hardware Co., voucher No. 22	75	
July 9—Pioneer Transfer Co., voucher No. 23	3 50	
July 9—Southern Electrical Co., voucher No. 24	2 10	
July 28—Point Loma Ferry Co., voucher No. 25	2 20	
July 28—J. Courtney, voucher No. 26	16 66	
		3,389 06
Balance		$5,837 69

SHIPPING AND COMMERCE.

Statistics showing the increase of commerce in the bay of San Diego during the time 1908-1910:

Year.	Vessels arrived.	Net tonnage.	Import values.	Export values.
1908	537	438,084	$486,838 00	$386,324 00
1909	609	427,001	747,575 00	663,114 00

LUMBER IMPORTED.

	Vessels.	Log rafts.	Feet, B. M.
1909	137	3	68,000,000
1910	200	3	97,000,000

PACIFIC COAST STEAMSHIP COMPANY.

	Incoming.	Outgoing.
1909—to October 1	20,017 tons	7,347 tons
1910—to October 1	23,193 tons	7,155 tons

STANDARD OIL COMPANY.

September 1, 1909, to September 1, 1910.

Water white oil	600,000 gallons
Red Crown gasoline	700,000 gallons
Engine distillate	400,000 gallons
Fuel oil	60,000 barrels

The Union Oil Company receives from their steamers to their tanks oil approximating 20,000 barrels per month.

The principal articles of import are coal, coke, lumber, cement, ores.

gold and concentrates, live stock, guana, structural iron, iron pipe, merchandise, machinery, onyx, oil, hides, and tea. These are received from the United Kingdom and the British Possessions, Germany, Mexico, China, and Japan.

The principal articles of export are grain, live stock, lumber, lime, cement, coal, malt liquors, honey and beeswax, agricultural machinery, fruits and nuts, fish, and provisions. These are sent to the United Kingdom and British Possessions, Germany, and Mexico.

Within the last two years two new lines of steamers have been calling at this port. The American-Hawaiian Steamship Co., Tehuantepec route, and the North Pacific Steamship Co.

The American-Hawaiian steamers are huge freighters, averaging 450 feet in length and having a net tonnage of from 3,650 to 5,636, and drawing 28 feet of water. They leave Salinas Cruz every six days, calling at San Diego, San Francisco, Portland, and Seattle on the Pacific coast, thence to Honolulu. Arrangements are soon to be made whereby they may also be allowed to carry passengers.

The North Pacific Company's steamers run from San Diego to Portland, Oregon. They make the trip every seven days, carrying both passengers and freight. The success that this company has attained in the short time they have been in operation fully justifies the belief that their venture will be a successful one.

The cotton industry in southern California, notably Imperial Valley, together with the fact that San Diego is 500 miles nearer the cotton belt than any other Pacific port, assures us of a large traffic with the Orient. This means that vessels carrying cotton to the Orient must be returned with product to be distributed in the East. What New Orleans and Galveston are to the commerce of the Gulf States, so may San Diego be to the southwestern ports of this great country.

The fishing industry is rapidly coming to the front. The California and Mexican Fisheries Company have leased a large tract of land on the water front, and are constructing buildings and wharves for the packing and canning of all kinds of fish. There are great possibilities in the canning of sardines, lobsters, etc., as the bay is alive with edible fish, and on the banks a few miles from the harbor's mouth an endless variety of all kinds of fish may be found.

The oil industry has taken great strides during the last two years. According to the statistics secured from the companies on this harbor, the oil-burning machinery, having to a great amount taken the place of coal, accounts for their increased business.

On the calm waters of the bay of San Diego also may be seen the numerous rowing clubs out for their daily practice. This is, without doubt, the only harbor on the Pacific coast where boating and swimming may be indulged in every day of the year, winter and summer.

AMERICAN-HAWAIIAN LINER "MEXICAN."

TIDE LANDS—BAY OF SAN DIEGO.

Inventory and appraisement of the tide lands in the bay of San Diego, belonging to the State of California, in charge of the Board of State Harbor Commissioners for the Bay of San Diego, California.

These tide lands lie between the line of mean high tide and the bulkhead or seawall line. They are from 200 to 600 feet in width, and extend entirely around the bay.

On the north shore of the bay, from the entrance to the Coaling Station, a distance of about three miles, the tide lands belong to the United States Government.

On the south shore of the bay, from the jetty to near Spanish Bight, a distance of about five miles, the tide lands belong to the Coronado Beach Company.

The remainder of the tide lands belong to the State of California.

	Acres.	Valuation per acre.	Total value.
Tract No. 1— From the line of the Military Reservation on Point Loma to Hawthorne street, in the city of San Diego	435.24	$600 00	$261,144 00
Tract No. 2— From Hawthorne street in the city of San Diego, to A street in the city of San Diego	16.50	3,000 00	49,500 00
Tract No. 3— From A street in the city of San Diego, to the Hartupee Tract in the city of San Diego	53.60	10,000 00	536,000 00
Tract No. 4— From Hartupee Tract, in city of San Diego, to line of National City	57.20	3,000 00	171,600 00
Tract No. 5— From boundary line of National City to Thirty-first street in National City	102.02	2,000 00	204,040 00
Tract No. 6— (Assumed to be 300 feet wide) from Thirty-first street in National City to the south boundary line of National Rancho	104.00	500 00	52,000 00
Tract No. 7— (Assumed to be 600 feet wide) from the south boundary of National Rancho to Second street, Coronado Heights	171.00	200 00	34,200 00
Tract No. 8— (Assumed to be 300 feet wide) from Second street, Coronado Heights, to Glorietta Bay	218.00	300 00	65,400 00
Tract No. 9— (Assumed to be 200 feet wide) from Glorietta Bay to Spanish Bight	72.00	800 00	57,600 00
Totals	1,229.56		$1,431,484 00
Tide lands which were filled by private individuals, but which are claimed by the Commissioners for the State of California, viz.:			
Tract No. 10— Hartupee Tract	21.3	$4,000 00	$85,200 00
Tract No. 11— Lands lying between F street and the Hartupee Tract	14.60	12,000 00	175,200 00
Total for Tracts 10 and 11	35.90		$260,400 00
Total for first nine tracts	1,229.56		1,431,484 00
Grand totals	1,265.46		$1,691,884 00

HARBOR SCENE.

LOG RAFTS.

One of the newer industries of the bay of San Diego is that of the Benson Lumber Company, who conceived the idea and perfected the plans for the achievement of bringing huge rafts of logs intact from their lumber camps of Clatskanie, Oregon. These rafts are put together with immense binding chains and are towed from the Columbia River country to their own mill on the water front, where they are taken apart and sawn into lumber with modern machinery, operated by most skilled workmen.

The first raft arrived in San Diego in July of 1906 and aroused much interest, thousands visiting it in excursion boats before it was cut up. In the center of this raft was the lumber for the very complete mill which was at once erected and the logs were being sawn and sold as fast as they could be turned into lumber. Thus was solved the question of cheaper transportation of raw material.

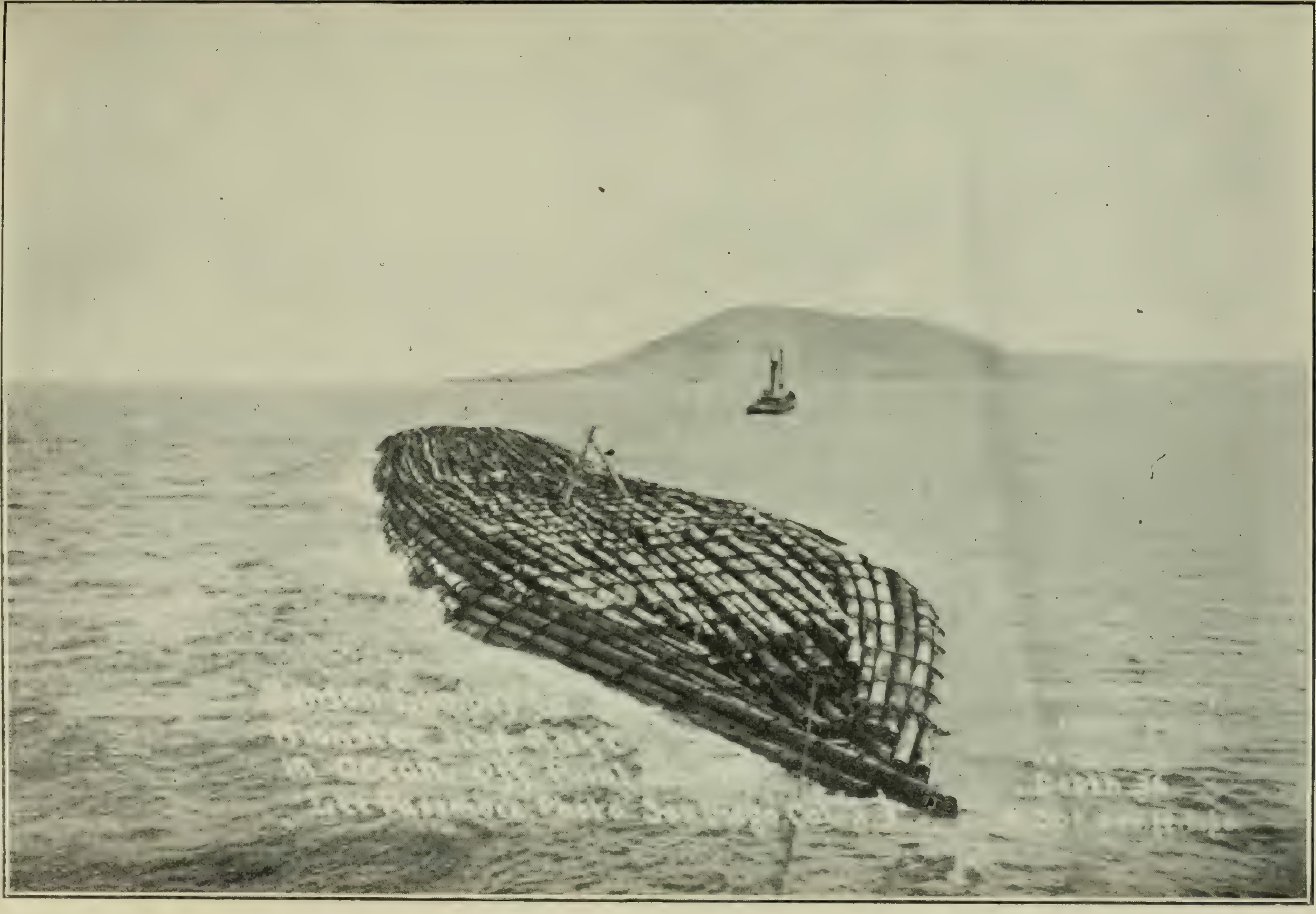
Five more rafts soon followed, representing footage of about 25,000,000 feet, and each year since this firm has been rafting these ocean monsters, meeting not once with mishap and bringing all through in perfect condition. These rafts have averaged 700 feet in length, 65 feet in width and 36 feet through from top to bottom, drawing 29 feet of water in crossing the bar, and containing from 5,000,000 to 6,000,000 feet of lumber. It is worthy of mention that outside of San Francisco this is the only port on the Pacific coast where rafts of large dimensions can be safely towed into the harbor.

Conservative estimates show that there has been 100 per cent more building throughout the southern part of this State since the first log raft came to San Diego. The growth of the Benson Lumber Company, within the four years of its existence in this locality, demonstrates the appreciation on the part of the citizens of San Diego of this enterprise, and should make this port, with its excellent harbor, the lumber distributing point of the great southwest.

EARLY HISTORY OF THE BAY OF SAN DIEGO.

The bay of San Diego was first discovered by one Juan Rodrigues Cabrillo, who was sent out by the Spanish conquerors of Mexico, who were desirous of exploring the region to the northwest of that country, and who thought they might discover India. The expedition consisted of two ships leaving Natividad, on the west coast of Mexico, in June, 1542. After a perilous voyage lasting three months, they cast anchor in the smooth and placid waters of what is now the bay of San Diego.

Sixty years after, in 1602, the King of Spain, Philip III, sent Viscaino with a small fleet to explore the California coast with a view of opening the way to settlement. Viscaino sailed from Acapulco, Mexico, in May,



1602, and, after stopping at several places along the coast, finally entered the bay in November, 1602. He surveyed and made a map of the harbor, also exploring the land adjacent to the shores. Cabrillo' had named the bay San Miguel, but Viscaino gave it the name it now bears at the present time, the Bay of San Diego.

The actual occupation of these western shores and the utilization of the harbor did not begin until the time of Father Junipero Serra, sent by the Spaniards to plant the Christian religion among the Indians and to establish a post and settlement at this harbor. At this time, in 1769, expeditions sent out from Mexico by land and sea arrived, houses were erected, and the settlement at San Diego Bay permanently founded.

THE HARBOR.

On the whole western coast of the Pacific, with about 2,000 miles of shore line, there are only six important ports. The first American port of entry on the Pacific coast has acquired a new significance, being the first American port touched by vessels passing through the Panama Canal from the Atlantic Ocean to the Pacific Ocean, and the last American port of call for vessels from the Pacific Ocean to the Atlantic Ocean. Seafaring men declare it to be without an equal in the world. The Pilot Chart, published by the Bureau of Navigation at Washington, indicates in a striking manner the very important position occupied by the port of San Diego and its proximity to the great circle routes from China and Japan.

In the great State of California, with a coast of 800 miles in length, there are but two large deep harbors, of which the bay of San Diego lies in the far south, completely landlocked and perfectly secure from the effects of any storm that may sweep the ocean. Nature has done much for the bay of San Diego, and the physical situation is such that Point Loma, that great physical projection, affords complete protection against the southwest swells and makes an entrance to the bay possible under any condition of weather; and there is no place on the Pacific coast better adapted for the care of a large commerce, and the bay of San Diego will eventually make one of the greatest commercial ports of the world. It will be the only way-port for the Atlantic coast shipping to and from Hawaii and the Orient, and all vessels passing through the canal either way will put into this port to recoal, take on supplies or to overhaul and make repairs. This will necessitate the construction of drydocks and shipyards.

The value of San Diego harbor as a base for naval operations is already observed by the Government. Impregnable forts have been built and other extension works are in the course of construction for defense and improvement. The strategic importance of San Diego Bay

SHIPPING SCENE, SAN DIEGO HARBOR.

is recognized by the Government of the United States. Fort Rosecrans, at the mouth of the harbor, is located at the water's edge. Besides some smaller rapid firing guns, there are immense disappearing guns, which alone could defend the entrance against the enemy's fleet. Other batteries will soon be constructed.

AREA AND DEPTH.

In the form of a crescent, about 13 miles in length and varying from one half mile to two miles in width, the bay has an area of about 22 square miles, and within the harbor can be anchored the entire navy of the world. So deep is the entrance that white water is never seen and there is very little perceptible swell. The general opinion that the depth of 28 feet over the bar, as measured some years ago, is still the correct one, is very much in error. The bar at lowest tide now marks 30 feet, while at high tide it reaches about 35, and ships can cross with safety at any time during the day or night.

There are no hidden reefs, sunken rocks, or treacherous currents to guard against. The entrance is straight and easy of access. So smooth and placid are the waters of the bay that ships lying alongside wharves need no fenders to prevent chafing. So calm is the atmosphere that on only one or two occasions during the year do winds reach so great a velocity as 25 miles an hour. No vessel has ever dragged her anchor, and no marine disaster has ever occurred on account of storm in San Diego harbor.

CHANNEL.

The average depth of the channel of San Diego Bay is 36 feet; the average depth of channel of 122 of the principal ports of the world is 30.6 feet. The present depth of the bay varies from 80 feet opposite the wharves of San Diego, to 30 feet ten miles up the bay. Anchorage is safe in any part of the channel, owing to the holding ground of deep, heavy, tough mud, and depth of water sufficient to float the largest vessels that traverse the seas.

DREDGING—JETTY.

In the early days the San Diego River poured its waters into the bay, and there was prospective danger that such a great amount of sand and detritus would be deposited that its value as a harbor would be destroyed. In 1876 a permanent bulkhead and riprap dam was constructed, which effectually shut the river out, and up to the present time has still held it in check.

It is a well known fact that the accentuated velocity of the ebb tide in bays fed by fresh water streams is caused wholly by the delivery on the ebb tide of more water than entered on the flood tide. San Diego

Bay, being comparatively free from this feature by reason of the absence of flowing streams, derives no benefit in the form of added waters, except from occasional rainstorms, and they only add to the amount of soluble matter in the bay.

The Government has constructed a jetty at the mouth of the harbor, which causes the outgoing tide to strike the bar directly without diffusion, the effect being the scouring of the bottom. As a result of the large exposed shore without any protection against erosion, the amount of matter released by the flood tide on entering the bay and carried out in suspension contributes to a very marked degree to the formation of the bar. At the present time, having no fresh water supply, this can be reduced to a tidal basin by the correction of the shore line, through the elimination of matter which now necessarily finds its way into the bay and is consequently deposited at the bar.

Officers of the Corps of Engineers of the United States Army report that a depth of 30 feet across the bar may be maintained by extending the jetty a distance of 3,500 feet and by constructing another jetty on the opposite side of the channel, extending outward from the extremity of Point Loma a distance of 3,000 feet. They, however, conclude that the same object may be attained by dredging; and they recommend that a channel 600 feet wide across the bar be deepened to 30 feet, and that a channel 30 feet deep be dredged across the middle ground, with a minimum width of 400 feet, flaring to a greater width at the upper end to facilitate access to the Coaling Station.

WHARVES.

Before any wharves had been built about the bay of San Diego, vessels used a crudely formed natural pier near the mouth of the harbor for the purpose of loading and discharging cargoes. This pier consisted of a large amount of water-worn cobblestone rock extending into the water some 800 feet, and called Ballast Point. On the near side the water was 60 feet deep close in shore, so that vessels might lie to, and spar off shore to receive and discharge goods. At that time there was but little commerce, the articles of export being mostly hides and tallow, and the imports such goods as were used for domestic purposes and clothing. As commerce increased, it became necessary for wharves to be built.

At present there are nine large wharves in San Diego Bay, besides more than a dozen wharves for small boats. Fully $2,500,000 has been spent on these wharves and improvements, almost all of which run into deep water and are easy of approach, with from 25 to 40 feet at low tide. Some of these wharves extend into the channel from 2,000 to 3,000 feet, and the longest can readily accommodate from eight to ten of the largest vessels afloat.

The wharves in the bay are all the private property of individuals or corporations, and the franchises of all but one of them will expire by the year 1925. It has been the policy of the Board to so grant all wharf franchises and all renewals of franchises to extend to that date, so that all wharves in the future conform to a general plan in direction of extension and in plan of construction.

With a few minor changes the wharfage would be ample for a large commerce, and everything is in readiness to welcome the large ocean traffic that has already commenced to seek this port. The commerce of the port of San Diego is greatly increasing, owing to the rapid development of the southern part of the State. When the Panama Canal is opened, we anticipate that a very great amount of the products of this section of California will be shipped to the Atlantic coast through this port and the canal; also that great quantities of merchandise from the cities of the Atlantic coast and Europe which are destined for southern California and the territory eastward will be shipped through the Panama Canal, and will be entered at this port, as well as the quantities of the products of the Orient shipped to the United States.

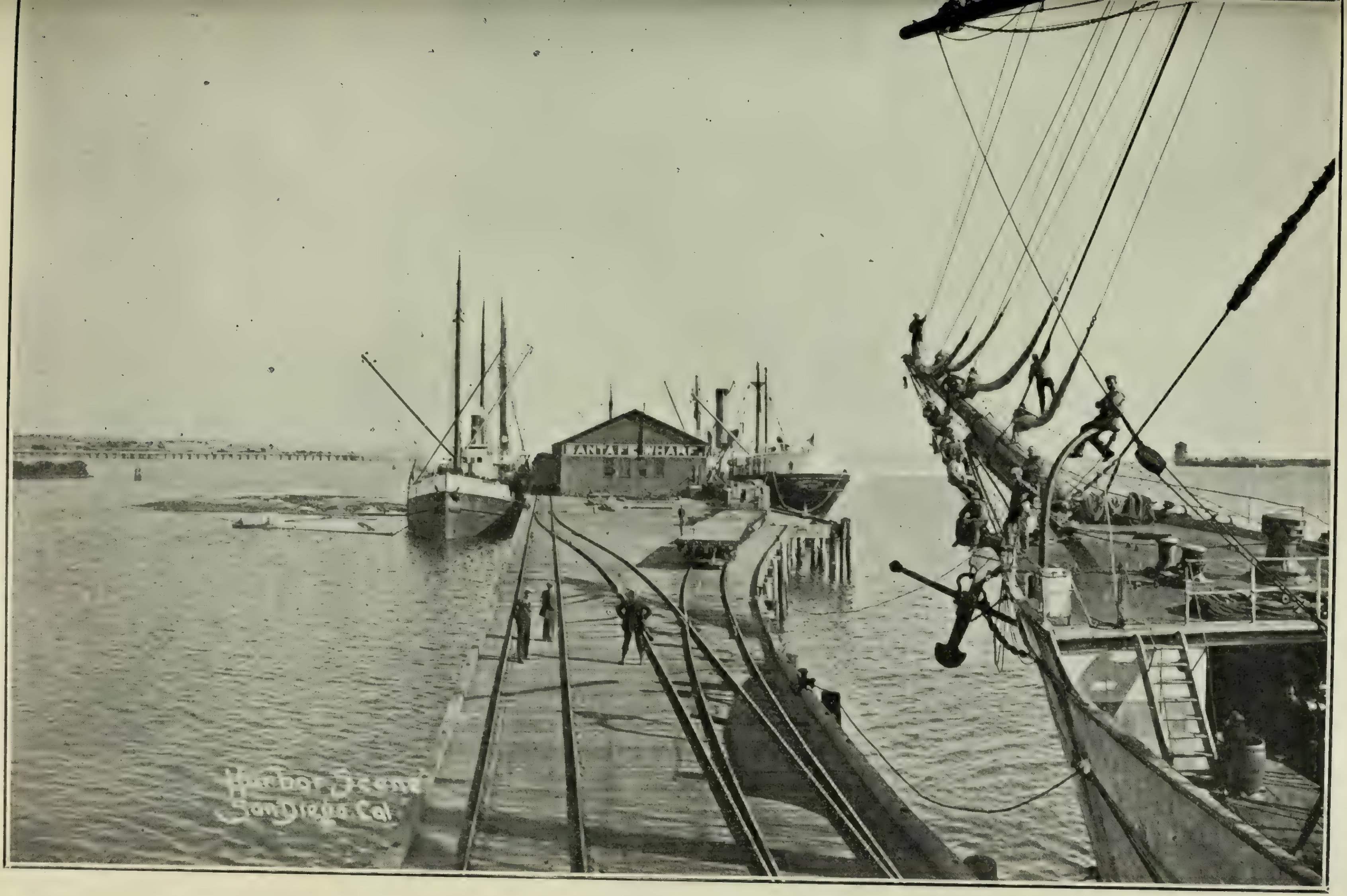
Construction is now rapidly going on for a direct line of railroad to the east: the San Diego and Arizona Railway, which will save 500 miles at least over any existing route. The Board of State Harbor Commissioners have granted a franchise to the San Diego and Arizona Railway for the building of large concrete piers to be used in connection with this project. These piers when completed will cost in the neighborhood of $1,000,000, and will accommodate the deepest draft vessels afloat.

On the Coronado side of the bay there are marine ways capable of accommodating vessels of large tonnage. On the San Diego side are huge coal bunkers owned by the Spreckels Brothers' Commercial Company. These bunkers are among the largest on the Pacific coast, and are fully equipped for rapidly coaling any steamer lying alongside.

In the past year the United States Government has expended $250,000 for a naval coaling station. Just north of this magnificent pier is the Quarantine Station, fully equipped with the most modern fumigating and disinfecting apparatus, and has well arranged and ample detention quarters for all vessels so held by the officers at the Quarantine Station.

WORK OF THE BOARD.

The Board has held twenty-four regular meetings in the last two years, together with sixteen special and adjourned meetings. Owing to the expected passing of bills in the Legislature pertaining to the construction of a seawall and other permanent improvements on the water front of San Diego, it has been the policy of the Board to grant but few franchises and permits until such time as these matters are settled.



WHARF SCENE, SAN DIEGO BAY.

so that no conflicting conditions may occur in any improvements that may be made by the State.

The following franchises and permits have been granted:

November 4, 1908—Permit to George A. Hensley, for machine shops and small wharf, during the pleasure of the Board.

January 18, 1909—Franchise granted to the Standard Oil Co., wharf, for commercial purposes, until August 1, 1925.

March 26, 1909—Franchise to San Diego Consolidated Gas and Electric Co., right and power to lay pipe line across and over tide lands, and through and under the waters of the bay, until August 1, 1925.

July 6, 1909—Permit to Llewlyn Allen, temporary wharf, during the pleasure of the Board.

September 14, 1909—Franchise to the Western Lumber Co., until August 1, 1925, to be used for lumbering purposes.

September 14, 1909—Franchise granted Standard Oil Co., wharf and pipe line, March 25, 1905. Revoked.

October 1, 1909—Permit granted Emerson and Taylor, temporary wharf, during the pleasure of the Board.

May 3, 1910—Permit granted San Diego Yacht Club, temporary wharf for pleasure purposes, during the pleasure of the Board.

Respectfully submitted.

CHAS. W. OESTING,
F. W. JACKSON,
L. A. CREELMAN,
Board of Harbor Commissioners,
for the Bay of San Diego.

TORPEDO BOATS IN ACTION.

IN THE ROADSTEAD, HUMBOLDT BAY.

BIENNIAL REPORT

OF THE

BOARD OF STATE HARBOR COMMISSIONERS

FOR THE

PORT OF EUREKA, CALIFORNIA

JULY 1, 1908, TO JUNE 30, 1910

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1911

BOARD OF STATE HARBOR COMMISSIONERS FOR PORT OF EUREKA.

A. C. TIBBETTS	Eureka
J. S. CONNICK	Eureka
M. ENGLES	Eureka

OFFICERS.

A. C. TIBBETTS	President
G. E. CAMPBELL	Secretary
JOHN D. MURPHY	Harbor Master

STEAMERS AT ARCATA WHARF, HUMBOLDT BAY.

SAIL AT ARCATA WHARF, HUMBOLDT BAY.

LETTER OF TRANSMITTAL.

EUREKA, CAL., December 1, 1910.

To HON. JAMES N. GILLETT,
Governor of the State of California.

YOUR EXCELLENCY: In accordance with the provisions of section 2592 of the Political Code, the Board of State Harbor Commissioners for the Port of Eureka respectfully submits the following report for the two years beginning July 1, 1908, and ending June 30, 1910.

EARLY HISTORY.

That the early explorers of the North Pacific coast failed to discover the entrance to what is now known as Humboldt Bay is conceded by the best authority upon the subject, though Drake's 1579, and Vizcaino's 1602–3, delineations of this particular portion of the coast show that both these navigators were very close to discovery.

While noting quite clearly on their rude charts the retreating curvature of high land between Cape Mendocino and Trinidad Head, both of which points they located quite accurately, the stretch between appears to have been given over by them as a continuous beach everywhere closed to the sea.

The first published sketch of the bay known to exist appears in a Russian atlas compiled in 1848 by Tebenkof, the name therein given to this sheet of water being Bay of Rezanof. This sketch, or more properly speaking chart, was originally drawn by Captain Jonathan Winship of the American brig "O'Cain," who while under charter to the Russian American Company for an otter hunting expedition along the Pacific coast entered the bay in 1806, remaining long enough to explore the inclosure and prepare a most satisfactory chart of it.

Between 1806 and November, 1849, when a party coming from the interior to the coast came upon this particular body of water, there appears to be no history of intervening visits, though it is not unlikely that other fur hunting parties on the coast may have brought their vessels into the bay, as some of the early settlers of Humboldt County have stated that upon their first arrival there were evidences along the shore showing that years before wood had been cut with implements known only to civilized man.

The inland party of November, 1849, passed on down the coast, the remnant eventually reaching San Francisco.

The first approach from the sea, and which laid the foundation of the population which has followed, was that of a party which entered the bay April, 1850, on the schooner "Laura Virginia," then under command of Lieutenant Douglas Ottinger of the United States Revenue Service, and at this time Humboldt Bay received the name it now bears. Numerous vessels carrying settlers followed closely upon the "Laura Virginia," and almost immediately there was a commerce of considerable magnitude. Steam was early in the field. The first published reports of shipping began with 1854, and through this year shipments of lumber to domestic ports as well as foreign were freely made, showing that much enterprise had been manifested in the preceding four years of settlement at the several points on the bay.

The first full rigged ship to enter the port arrived January 1, 1855, being the ship "Louisa," Captain Ross, commanding, which sailed later with a cargo of lumber for Melbourne, Australia.

Until 1889 the entrance to Humboldt Bay was subject to such changes as wind, wave, and shifting sand might effect, the depth of water and course of channel varying greatly at times.

In this year jetty work was begun by the General Government, about ten years being consumed in its construction, the cost of same amounting to more than $2,000,000. At the termination of this work the course of the channel into the bay was practically controlled, and a greatly increased depth of water prevailed in the channel. As a result vessels of large size could enter and depart freely, direct shipments of cargo being made to any part of the world where markets could be found.

While the jetty work immediately at the harbor entrance is almost intact, that part of it projecting seaward has been seriously impaired by the action of the sea, and the General Government is now about to restore this portion of the work to its former efficiency.

WORK OF THE BOARD.

As the action of heavy seas coming in on to the coast as a result from offshore disturbances tends to hammer the sands into the entrance of barred harbors such as this, the only means to overcome such wave action lies in the amount of pent-up tidal water and added influx from contiguous streams that may be discharged twice daily during the outrun of ebb tide.

Should the now frequent heavy wave action of these latitudes be continuous the result would no doubt be to close entirely during the dry season the entrance to a bay such as ours, and, in fact, during long intervals of heavy seas the shoaling upon the outer bar is rapid and most marked. But happily the action of the sea is intermittent, while our force of combat, the ebb tide, works twice each day without inter-

FIELDS' LANDING, HUMBOLDT BAY.

mission. While the tidal prism is kept at its maximum, time, as proven, demonstrates that interruption to navigation may be rendered temporary according to the length of disturbance from offshore seas and the intervals of mild weather between.

It is plainly apparent that the utmost area of tidal prism of a barred harbor such as Humboldt Bay is most desirable, and its preservation should be most jealously guarded. This Board considers that such preservation of tidal prism is the most vital and important matter committed to its charge, and its line of work has been largely in this direction.

During the past two years several reclamation projects embodying encroachments upon the tidal prism of the bay have been presented to us, and the petitions for same promptly denied, or only granted when features encroaching upon tidal prism have been eliminated.

While fully appreciating the desirability of reclaiming saltmarsh lands when such reclamation can be accomplished without curtailment of tidal waters, this Board feels that it can render no more important service to the State and to the harbor committed to its charge than to protect every cubic foot of tidal prism that pertains to the bay, as its only weapon to overcome adverse sea action against the entrance to the port of Eureka.

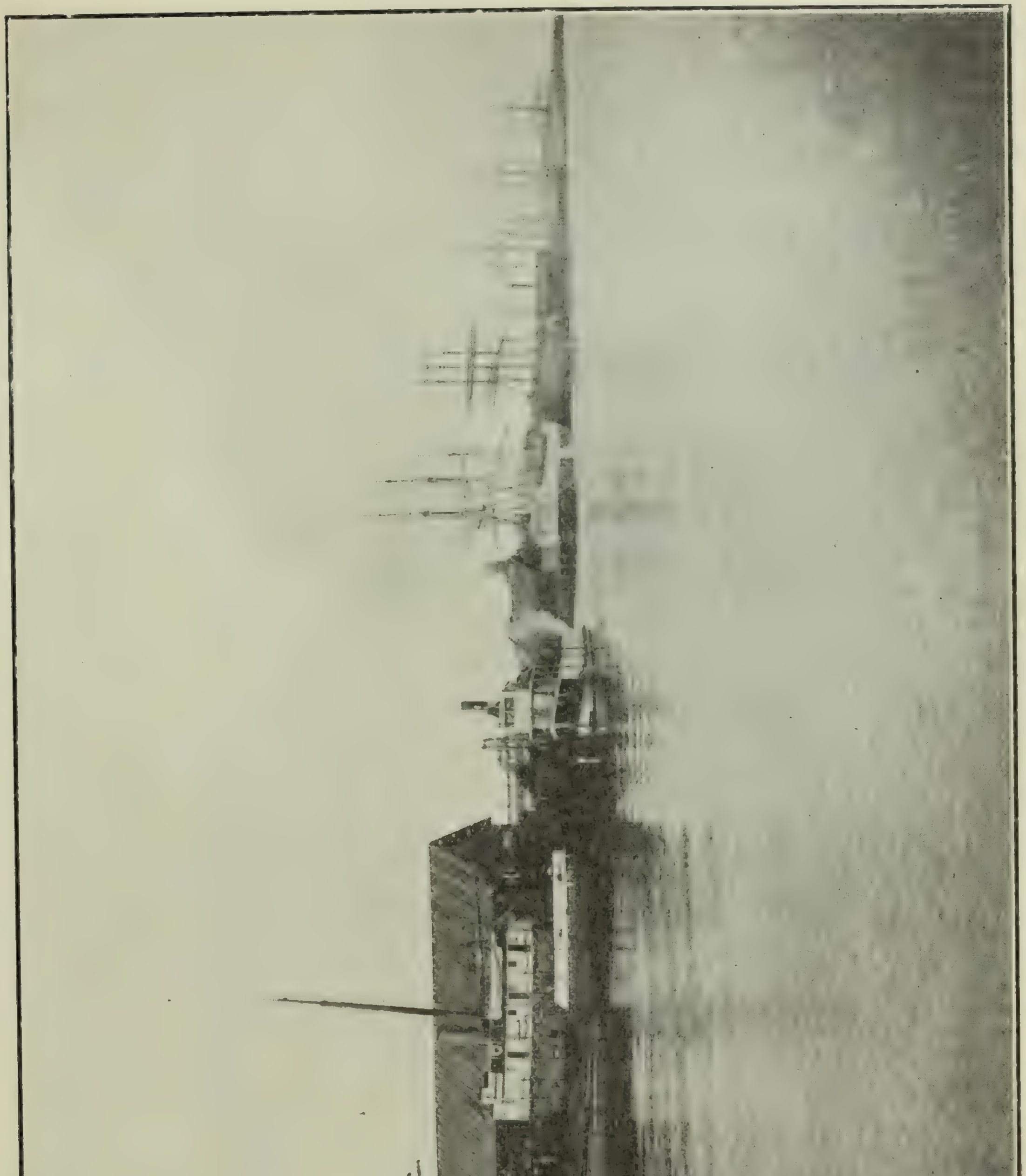
Since date of last biennial report a number of permits have been given authorizing the construction of new wharves; also extensions from and repairs to older ones, all within the pierhead lines as established by the United States War Department.

The most important new work in the way of harbor improvement has recently been completed at Field's Landing, where extensive wharves have been constructed, some 1,200 feet in frontage, and a deep and commodious channel dredged along same. The débris resulting from the dredging has been placed back of a rock bulkhead filling in a large area of tidal flats, so that facilities for handling freight at this point have been greatly extended.

Other important improvements have been made at several points on the bay, and water front conditions are now better than ever before. Dredging to channels has been done in some instances by the General Government, and in others at private expense. There are several points of confluences of channels where shoals exist, and the removal by dredging of these obstructions would greatly add to the navigability of the bay.

EXPENDITURES.

Fortunately the Board has not been under any extraordinary expense during the past two years, and disbursements have been kept well within the limits of authorized funds. Contingencies may arise in the future calling for more expenditure, and we therefore would recommend

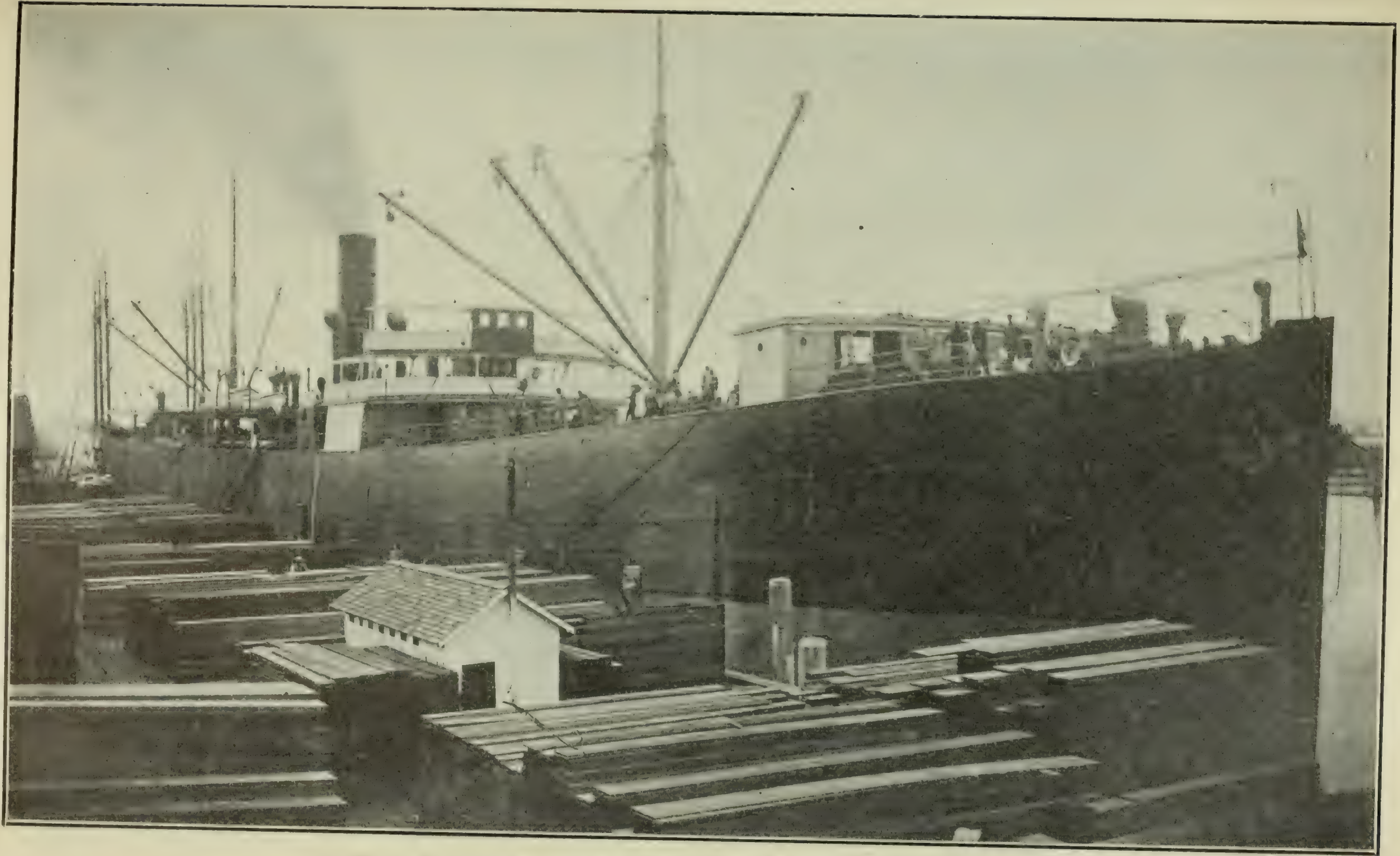


SAMOA WHARF, HUMBOLDT BAY.

that the amount now authorized by law for the expenses of this Board of Harbor Commissioners be continued at the same figure.

We respectfully submit herewith statement of traffic in and out of the port of Eureka for the two years ending June 30, 1910.

A. C. TIBBETTS.
M. ENGLES,
JOHN S. CONNICK,
Board of Harbor Commissioners,
for the Bay of Humboldt.



BRITISH STEAMER "CLAN MACMILLAN," EUREKA, HUMBOLDT BAY.

EXPORTS SHIPPED OVER HUMBOLDT BAR DURING THE PERIOD COVERED BY THIS BIENNIAL REPORT.

		Value.
Lumber products, feet	759,433,498	$12,449,278 00
Tanbark, cords	8,452	118,328 00
Live stock, head	9,359	346,152 00
Dressed meat, carcasses	2,462	44,348 00
Glue stock, tails, etc., sacks	4,549	22,050 00
Pelts and hides, bundles	13,051	135,600 00
Leather, rolls	6,539	364,220 00
Butter, pounds	5,600,385	1,576,704 00
Condensed milk, cases	13,201	68,555 00
Fresh cream, cans	1,034	11,680 00
Casein, sacks	19,619	127,090 00
Farm produce, sacks	25,622	63,950 00
Eggs, cases	302	22,348 00
Wool, sacks	3,303	876,000 00
Fruit, boxes	89,212	1,070,544 00
Apple butter, boxes	60	180 00
Cider, cases	1,283	2,467 00
Cider, barrels	370	7,450 00
Vinegar, barrels	39	312 00
Fresh fish, cases	9,246	184,920 00
Oysters, boxes	26	208 00
Crabs, sacks	29,824	268,416 00
Copper ore, sacks	117	14,625 00
Miscellaneous freight, tons	35,160	543,180 00
		$17,718,605 00

During this time the arrival and departures of vessels numbered 3,686, carrying 63,114 passengers.

Contingent Expenses, one year, from July 1, 1909, to June 30, 1910.

Supplies, printing and stationery	$508 35
Office rent	180 00
Telephone and telegraph	49 55
Fixtures	237 50
Buggy and launch hire, Commissioners	50 00
Fuel and light	42 50
Janitor service	9 00
Allowance to harbor master for horse and buggy	180 00
Miscellaneous expense	58 80
Total	$1,315 70

This amount was paid by the State. During the first year covered by this report, contingent expenses were paid by Humboldt County.

Salaries, July 1, 1908, to June 30, 1910.

Three Commissioners, $400.00 per year	$2,400 00
Secretary, $1,000.00 per year	2,000 00
Harbor Master, $1,200.00 per year	2,400 00

During this period the Board has held sixty-two sessions.

DOLBEER & CARSON WHARF, EUREKA, HUMBOLDT BAY.

BAYSIDE MILL, HUMBOLDT BAY.

TWENTY-FIRST BIENNIAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

CALIFORNIA

FOR THE

Fiscal Years from July 1, 1908, to June 30, 1910

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING.
1910.

MEMBERS OF THE STATE BOARD OF HEALTH.

Martin Regensburger, M.D., *President*	San Francisco.
W. Le Moyne Wills, M.D., *Vice-President*	Los Angeles.
William F. Snow, M.D., *Secretary*	Sacramento.
F. K. Ainsworth, M.D.	San Francisco.
Wallace A. Briggs, M.D.	Sacramento.
James H. Parkinson, M.D.	Sacramento.
O. Stansbury, M.D.	Chico.

OFFICIAL STAFF.

William F. Snow, M.D., *Executive Officer and State Registrar*	Sacramento.
Jonh F. Leinen, *Chief Clerk*	Sacramento.
Hon. J. E. Gardner, *Attorney for the Board*	Watsonville.
George D. Leslie, *Statistician, Bureau of Vital Statistics*	Sacramento.
M. E. Jaffa, M.S., *Director, Food and Drug Laboratory,*	University of California, Berkeley.
W. A. Sawyer, M.D., *Director, Hygienic Laboratory,*	University of California, Berkeley.
Raymond Russ, M. D., *Director, Bureau Public Health Information*	San Francisco.

REGULAR MEETINGS.

The California State Board of Health meets regularly the first Saturday of each month, but the stated meetings of January, April, July, and October constitute the quarterly meetings required by law to be held at the Capital of the State.

By courtesy of the University of California the Food and Drug Laboratory and the Hygienic Laboratory are located in University buildings at Berkeley, California.

Address all communications to the SECRETARY, Sacramento, California.

LETTER OF TRANSMITTAL.

OFFICE OF CALIFORNIA STATE BOARD OF HEALTH,
SACRAMENTO, September 15, 1910.

To His Excellency, JAMES N. GILLETT,
Governor of California.

DEAR SIR: In accordance with the state law, I herewith transmit to you the twenty-first Biennial Report of the State Board of Health of California for the sixtieth and sixty-first fiscal years.

Respectfully submitted.

W. F. SNOW,
Secretary of State Board of Health.

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THE PRINCIPAL DUTIES AND POWERS OF THE STATE BOARD OF HEALTH, AS ENUMERATED IN THE LAWS OF CALIFORNIA.

The legislature shall provide, by law, for the maintenance and efficiency of a state board of health.—*Constitution of California, Article XX, Sec. 14, 1879.*

A. Investigation Duties.

1. "The State Board of Health shall examine into the causes of communicable diseases in man and domestic animals occurring or likely to occur in this State."
2. "It shall cause special investigation of the sources of mortality and the effects of localities, employments, conditions, and circumstances on the public health; the preparation and sale of drugs and food and the adulteration thereof."
3. "* * * These statistics (births, marriages, and deaths), together with the number of cases of communicable diseases, and such further comparative statistics and information as may be deemed of value to scientists, the medical profession, the general public, and aid in the maintenance of good health conditions, may be published by the board in such manner and at such times as it may deem proper."
4. "It shall examine and have power to prevent the pollution of sources of public domestic water and ice supply."
5. "The board must examine into and report what, in their best judgment, is the effect of the use of intoxicating liquor as a beverage upon the industry, prosperity, happiness, health and lives of the citizens of the State * * *."

B. Specified Administrative Duties.

"It shall maintain a bureau of vital statistics, under the supervision of its executive officer, where shall be collected and recorded all births, marriages, and deaths, burials, and cremations within the State * * *."

"It shall have sanitary control of all public buildings or places owned, leased or controlled by the state, and no officer or person having charge of the erection of any public building owned or controlled by the state shall proceed with the construction thereof until the State Board of Health shall, in writing, have approved the plans and specifications therefor, in so far as the same may, in any way, affect the sanitation thereof."

"It must perform such duties as are or may be required by law for the detection and prevention of the adulteration of articles used for food and drink, and for the punishment of persons guilty of violation of any law providing against such adulteration."

"The Board must meet at the capital of the State at least once in every three months."

"It shall at each biennial session of the legislature make a report with such suggestions as to legislative action as it deems proper."

C. Discretionary Administrative Powers and Duties.

"It (the board) shall have power to prepare or purchase and distribute at cost, antitoxins, vaccine, and other approved serums and lymphs."

"It may establish and maintain places of quarantine or isolation."

"It shall have power to abate public nuisances."*

"It may advise all local health authorities, and, when in its judgment the public health is menaced, it shall control and regulate their action."

"It shall have general power of inspection, examination, quarantine, and disinfection of persons, places, and things within the state, and for the purpose of conducting the same may appoint inspectors, who, under the direction of the board, shall be vested with like powers; *provided*, that this act shall nowise conflict with the national quarantine laws."

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* Anything which is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property by an entire community or neighborhood, or by any considerable number of persons, or unlawfully obstructs the free passage or use in the customary manner of any navigable lake, or river, bay, stream, canal, or basin, or public park, square, street, or highway is a public nuisance. (Penal Code, Section 370.)

"It may quarantine or isolate, inspect and disinfect persons, animals, property and things of whatever nature, and houses, rooms, places, cities or localities, whenever in the judgment of said board or pending its meeting, whenever in the judgment of its executive officer such action shall be deemed necessary to protect or preserve the public health; and said board may destroy, or cause to be destroyed, bedding, carpets, household goods, furnishing and materials, clothing or animals, when in the judgment of said board, or that of its executive officer, such clothing, furnishings, bedding, goods, materials or animals are an imminent menace to the public health."

D. General Powers.

"It (the board) shall have power to adopt and enforce rules and regulations for the execution of its duties under this section."

"It shall have power to prescribe and enforce regulations for the embalming, cremation, burial, disinterment, and transportation of the dead."

"It shall have power to prescribe the form of certificates of birth and death, and of permits for burial, disinterment, cremation, and transportation of the dead, and provide measures for their observance; and whenever the board, or when it is not in session, its secretary, shall so order, no burial permit shall be issued until after the body has been inspected by the State Board of Health, or some one designated by it or its secretary for the purpose."

"It shall have power to commence and maintain all proper and necessary actions and proceedings to enforce its regulations, to enjoin and abate nuisances dangerous to health, to compel the performance of any act specifically enjoined upon any person, officer or board, by any law of this state relating to the public health, and to protect and preserve the public health; also to defend all actions nad proceedings involving its powers and duties; and in all such actions and proceedings it shall sue and be sued under the name of the State Board of Health."

GENERAL REPORT OF THE BOARD.

SACRAMENTO, CALIFORNIA, September 15, 1910.*

His Excellency, JAMES N. GILLETT,
Governor of California, Sacramento, California.

DEAR SIR: The California State Board of Health takes pleasure in this opportunity to present to you a brief summary of the work performed during the past two years.

CHANGES IN THE PERSONNEL OF THE BOARD.

Since the last report two changes have occurred in the personnel of the Board. Dr. A. C. Hart has been succeeded by Dr. James H. Parkinson of Sacramento, and Dr. N. K. Foster by Dr. William F. Snow of Stanford University. The Board was reorganized June 26, 1909, by the reëlection of President Martin Regensburger, and Vice-President Dr. W. Le Moyne Wills, and the election of Dr. William F. Snow as Secretary to fill the vacancy caused by the resignation of Dr. N. K. Foster. With these two exceptions, the members of the Board have served continuously since April 1, 1903. The membership of the Board now consists of: Dr. Martin Regensburger of San Francisco, Dr. W. Le Moyne Wills of Los Angeles, Dr. Wallace A. Briggs of Sacramento, Dr. F. K. Ainsworth of San Francisco, Dr. O. Stansbury of Chico, Dr. James H. Parkinson of Sacramento, and Dr. William F. Snow of Stanford University.

FORMER SECRETARY N. K. FOSTER.

When Dr. N. K. Foster suggested to the members of the Board and to the Governor in June that he was seriously considering the advisability of resigning on account of personal affairs which he felt could no longer be sacrificed without serious injustice to his family, a difficult situation presented itself. Dr. Foster had been the Board's executive officer for seven years. Under his energetic, tactful management the work had grown enormously both in amount and importance, and he was the only member thoroughly familiar with every section of the State. The Board was at a loss for the suggestion of a member who could be counted upon to fill the secretaryship successfully in the event of Dr. Foster's resignation. At the same time, the members of the Board did not believe that they could unduly urge Dr. Foster to continue as Secretary at a great personal sacrifice. After several conferences with Dr. Foster and the Governor, it was decided that Professor William F. Snow of the Department of Hygiene and Public Health of Stanford University, should be invited to accept the appointment, or at least to serve temporarily until a permanent successor could be selected. Governor Gillett formally requested President Jordan to obtain from the trustees of Stanford University a leave of absence for Dr. Snow in accordance with this plan. This was granted and the transfer of the secretaryship was made, as stated above, on June 26, 1909.

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*The statistics given in this report have been corrected immediately before leaving the press, in order to cover correct deductions for the whole of 1910.

It is impossible within the limitations of this report to express the full appreciation and esteem in which the members of the Board, and the citizens of the State generally, held Dr. Foster. California was the second state in the Union to establish a board of health, and its first board was composed of remarkably efficient and broad-minded men. But in succeeding years the board's influence became gradually impaired through the secretaryship becoming a political sinecure. In 1903 the State reached a crisis in its public health history. The existence of bubonic plague had been denied by the Governor and the State Board of Health until an interstate quarantine was imminent. It was under such trying circumstances that the present Board of Health was appointed and Dr. Foster assumed the duties of its executive officer. His first duty was to proceed to Washington and convince the assembled officers from the several states that California realized the mistaken policy that had been previously pursued, and that adequate measures would be immediately instituted to control the plague. In this mission he was successful, and the quarantine against California was never instituted.

On his return from Washington, Dr. Foster began the executive work entailed by the many and difficult activities which the new board at once instituted. In large measure the fact that California became a registration State (of which there are now only eighteen in the entire registration area in the United States) is the result of his persistent efforts during the first two years of his incumbency. All that a man of high purpose, untiring energy, and enthusiasm for his work can accomplish Dr. Foster accomplished as the executive officer of the board from 1903 to 1909.

MINUTES OF STATE BOARD OF HEALTH.

The minutes of the board for the biennial period from July 1, 1908, to June 30, 1910, show a multiplicity of subjects presented for consideration. During this period the board held twenty-four meetings, with an average of four hours devoted to each session.

Considerable time each month has been devoted to pure food and drug hearings, and to the discussion of new phases of the laws regulating the adulteration and misbranding of foods and drugs.

The correspondence of the board has greatly increased, and many important subjects have been referred to the Board at its meetings for rulings. Much of the work has been accomplished through temporary committees appointed to investigate and report on special problems.

THE SANITARY CONDITION OF STATE INSTITUTIONS.

During the past two years the Board has inspected, through its president, members or inspectors, the sanitary conditions of the various state institutions for the insane, feeble-minded, blind, prisoners, etc., and the state schools. The commissions and boards of control of these institutions without exception are desirous of maintaining a high standard of sanitary efficiency but many of them have to contend with serious handicaps in the use of old buildings, poor plumbing, bad lighting and ventilation, and in overcrowding. No categorical report on these institutions would be fair to their managements without an accompanying history of their efforts to obtain appropriations for modern equipment and increased accommodations. The Board desires to strongly commend on the whole the attention given to health conditions at our state institutions, and to urge careful consideration of requests for appropriations covering new sanitary improvements.

THE SECRETARY'S REPORT.

The Secretary's report published herewith includes a summary of many important activities of the board. During the past two years the general death-rate has been reduced from 14.6 deaths per 1,000 of population in 1907 to 13.4 for 1909 and a forecast of 13.4 also for 1910. This means a saving of at least 1.2 lives in each 1,000 of our population, or something over 3,000 persons saved in 1910 who would have died had the death-rate of 1907 continued. This great saving of life has resulted from the combined efforts of citizens, commercial bodies, welfare associations, local and state departments of government, and is most significant of what can be accomplished in the future by increased attention to health conservation and to effective coöperation among the citizens and their representative organizations.

This actual saving of lives has an added significance in that it implies also a great reduction in the total number of persons incapacitated for work or enjoyment of life through illness. Typhoid fever, for example, is now causing 200 less deaths a year than it did four years ago, but this means also some 2,000 less cases of typhoid fever per year.

There are many ways of estimating the importance of such results of health conservation, but inasmuch as all outlay for such work is estimated in dollars and cents, these results may be likewise so interpreted. The average cost of a typhoid illness may be estimated at $300; the National Conservation Commission estimated the average loss due to a death at $1,700; upon this basis the saving on typhoid fever alone is something like $1,000,000 per year as compared with the expense of this disease indicated by the death-rate of 1907.

Between the years 1907–1910 the population of the State has increased over 250,000, yet the total number of deaths for 1910 only 1,000 more than in 1907, instead of 3,000, as would have been expected according to the 1907 death-rate. It is probably a conservative estimate to say that such figures, aside from the priceless saving of life and health to those who would have died, represent a commercial saving to the State of $5,000,000 annually. These figures are merely quoted in illustration of the importance of the great work upon which the State Board and other official and lay health organizations are engaged.

As outlined in the Secretary's report, the vital statistics and morbidity returns of local boards of health are made the basis of the epidemiological work of the State Board, and adequate equipment and operating expense must be available to render the work most efficient.

THE SANITATION EXHIBIT.

The most effective instrument for enforcing public health laws is popular education, which leads to voluntary compliance with regulations. During the past two years the board has directed its efforts largely in the direction of demonstrating to the citizens of the State the need for supporting their local health boards and officers in the enforcement of local ordinances and the state laws. Lectures, exhibits, and printed pamphlets, etc., have been used in the usual ways found valuable in the experience of other states. Every effort has been made to coöperate with and give prominence to the valuable work of the various welfare organizations of California. The distinctive feature of this campaign has been the development and use of a general sanitation exhibit covering statistically, financially, by pictures, charts, and by models the preventable losses from all the communicable diseases.

This exhibit was housed in a special railway car and transported over all the railway systems of the State. In many instances the broad gauge electric lines carried the car to centers of population not otherwise accessible. California is more than 1,000 miles long and 200 miles wide by lines of travel. This fact must be realized in order to appreciate the importance of the coöperation of these railroad companies. The Southern Pacific Company provided a modern passenger coach and had it equipped with tables and wall boards in its shops. For a year this company generously tranferred this exhibit—the ''sanitation car'' it came to be styled by the trainmen—from town to town over its entire trackage. The demonstrators were invariably treated with consideration and their desired schedules immediately accepted by the train dispatchers. Whenever the car reached a division point it was specially cleaned, windows washed, gas tanks refilled, etc., without expense to the Board. These details are here mentioned both in acknowledgment of the generosity of this company and for emphasis of the fact that without this solution of the transportation problem the board could not have proceeded with this important educational campaign. The Santa Fe Company, the Pacific Electric Company of Los Angeles, and the San Jose-Los Gatos Electric Company of San Jose placed their lines at the disposal of the board for the purpose of reaching sections of the State not directly on the lines of the Southern Pacific.

The Secretary has described the details of this exhibit in his report. During the year more than 100,000 people visited this exhibit or attended the lantern demonstrations given in the public parks at night by the demonstrators accompanying the car. Except for the keen interest of Governor Gillett in the problem of improving the sanitation of the rural districts of the State, the expenses of the demonstrators could not have been financed. These demonstrators for the most part contributed their time without salary. In addition to contributing his time for supervising the construction and in planning the exhibit, Professor Snow of Stanford University acted as director without salary during the trial trips of the first two months. Professor Long also contributed his services as chief demonstrator and afterward as director for three months without salary. To these enthusiastic workers and others the board is much indebted.

RELATIONS OF BOARD TO COUNTY HEALTH OFFICERS.

It has been the policy of the board to make the office of the Secretary a bureau of interchange of ideas, information, statistics, and standardization of administrative methods for all the county health officers. The laboratory and inspection facilities of the State Board have been extended as far as possible to every health officer needing aid in investigating the presence and prevalence of a communicable disease in his jurisdiction, and the Secretary has given advice concerning the most effective measures to be instituted to control the conditions found.

Only in cases of intercounty or inter-town matters and in outbreaks of disease in which the local officials requested the State Board to assume charge has the Secretary been instructed to enforce administrative measures in local situations.

INVESTIGATIONS OF NEW DISEASES.

The law requires the Board to "investigate the sources of mortality and the effects of employments, localities, conditions, and circumstances on the public health." To the extent of its limited funds research in accordance with these instructions has been carried on. The special reports, several of which are printed herewith, on poliomyelitis, hookworm, the rag industry, and housing conditions, and stream pollution present many important suggestions for legislation and further investigation. The Board desires to take this opportunity to specially commend to your attention the generous and efficient volunteer services of Dr. Herbert Gunn, who has spent considerable time, at a personal sacrifice, in investigations of the distribution and prevalence of hookworm in California; Dr. F. F. Gundrum, who has been in charge of the Board's investigations of poliomyelitis; Professor R. R. Long and Miss W. R. D. Randall, who carried on the special investigations of the Board in the rôle of rags, secondhand furnishings, etc., in the transmission of disease in tenement houses, and labor agencies; Professor W. B. Herms, who has made a thorough study of mosquito-eradication in certain sections of the State and has rendered valuable aid in the study of the malaria problem; Miss Ora Boring, who has entered the educational work of the Board as special lecturer. All these, and to a less extent other citizens, have devoted much time and skill to special problems confronting the Board, and for which there has been no money with which to employ investigators.

RELATIONS WITH STATE UNIVERSITY.

Through the courtesy of the State University, the Pure Food and Drug Laboratory and the Hygienic Laboratory have been housed in buildings on the campus at Berkeley. Aside from the inconvenience and lessened efficiency in administration brought about by the wide separation of the laboratories from the executive division of the work, this plan has been greatly to the advantage of the Board and of some value to the university. The coöperation thus extended is greatly appreciated.

NATIONAL CONFERENCES.

It has been the policy of the Board to send representatives to the annual conferences on health legislation and administration. The officers delegated are able to present California's progress in health-conservation to the delegates of other states and the national departments of government, and to inform the Board as to new methods employed by these other boards. The following meetings have been regularly attended: The Conference of State and Territorial Boards of Health with the Surgeon-General of the Public Health and Marine Hospital Service; the State and Provincial Boards of Health Conference; the annual meeting of the Association of Official Agricultural Chemists.

A NATIONAL DEPARTMENT OF HEALTH.

There is a widespread demand among the citizens of the United States for a new department of federal government, which shall be known as the United States Department of Health, and shall be coördinate with the existing departments, its secretary being a member of the President's cabinet. The State Board of Health has been asked to define its attitude toward such a department. The members of the board believe there is a genuine and pressing need for federal control of certain interstate affairs and for a central department of information and research available for immediate aid to all the state health departments, and through the latter to cities or special areas facing serious epidemiological problems.

In April, 1910, the Board adopted resolutions endorsing the general principle of the Owen bill then before Congress. While a preference for this bill over others which had been presented was thus expressed, the board believed that the personnel bill for the existing Public Health and Marine-Hospital Corps should be passed at once, and that the qualifications for the secretaryship of this new department should be specified, together with the essential details of reorganization of the many existing bureaus the bill proposed to transfer to the new department. While no further action has been taken by the board, its members are watching with keen interest the development of this legislation in Washington, and are ready to endorse the bill which will finally result from the conferences of the many welfare organizations working for its consummation.

RECIPROCITY IN THE CARE OF CONSUMPTIVES.

California is especially interested in the establishment of some interstate regulations for the proper care of migrating consumptives. This is one of the problems which should be dealt with by a national department of health.

REPORTS OF DEPARTMENTS

The biennial reports of the several departments contain much valuable data, besides their usual reports of work for the past two years.

VITAL STATISTICS OF THE STATE.

The vital statistics tables have been prepared largely in accordance with the previous reports in order to facilitate comparison.

The recommendations for increased clerical assistance in handling the statistical records of births, marriages, and deaths are important. No one unfamiliar with the many legal and business uses of these records, can realize the necessity for accuracy and completeness in recording and tabulating deductions from them.

PURE FOOD AND DRUG LABORATORY.

The report of the pure food and drug laboratory, shows in conclusive terms, the necessity for continuing the work and increasing its efficiency by extension of the inspection service, either through required county coöperation or added state inspectors. The educational campaigns which have been carried on, have been most valuable aids in enlisting the coöperation of the retail dealers in enforcing the law.

HYGIENIC LABORATORY.

The hygienic laboratory has steadily increased the scope and importance of its work since its establishment, but has had the great handicap of distance and transportation expense in receiving materials and returning its findings. The majority of the work done is in a sense "emergency" work, *i.e.*, work which requires the earliest possible reply. A family anxiously watching beside the bed of a child ill, with a dangerous ulceration of the throat, realizes the disadvantages under which their physician has to work in sending the throat culture five hundred miles to the central laboratory for examination. Likewise, the health officer impatiently waiting for the laboratory reports on suspected cases of typhoid fever, realizes the disadvantages of California's geographic dimensions. To make this laboratory of greatest use to the citizens, the Board hopes to see the means provided for the establishment of the substations recommended in the department report herewith printed.

A PASTEUR INSTITUTE.

Rabies has unquestionably obtained a foothold in California, and the Pasteur treatment must be made available if deaths from this disease are to be prevented from following the bites of rabid animals. During the past year the Federal Government has furnished this treatment from its hygienic laboratory in Washington, but it is not the policy of the United States Government to indefinitely aid individual states in this way. It would be greatly to the advantage of the citizens of the State to establish their own Pasteur Institute, rather than permitting an unsupervised private institution to be developed. Dr. Frederick P.

Gay's letter published in the hygienic laboratory report emphasizes this fact.

RESEARCH WORK.

Several diseases, not previously recognized as established or prevalent in California, have been definitely on the increase since the last biennial report. Acute anterior poliomyelitis especially requires thorough and persistent investigation. Amœbic dysentery, hookworm, and other diseases better understood scientifically than poliomyelitis, have not been studied as to their epidemiological factors and geographic distribution in the State. The hygienic laboratory should be fully equipped with facilities and assistants for this most important work.

A BUREAU OF EPIDEMIOLOGY.

One of the pressing needs of public health work in California, is an adequate system of providing local officers with the knowledge resulting from a prompt and thorough investigation of the sources of infection in all serious outbreaks of epidemic diseases. Without such knowledge, it is impossible for officials to act intelligently and with assurance of success in stamping out a disease. There is not sufficient work of this nature to warrant individual counties in employing properly trained epidemiologists for this work, but in the whole State there is constantly work of this character for one or more experts. These men should be available through the State Board of Health. During the past year, the Secretary has devoted much of his time to this division of the work, and has had the services of an engineer-inspector. The report of this inspector is included herewith, and demonstrates the need for a permanent division of engineering for the Board's work.

A BUREAU OF PUBLIC HEALTH INFORMATION.

During the year the Board has made an effort to aid, through correspondence as well as by lectures and demonstrations, every community whose citizens were attempting to improve health conditions. In so far as it has been possible, special articles have been printed for distribution through the bulletin. To provide for this constantly increasing part of the work, provisional arrangements have been made whereby Medical Inspector Russ, will serve as director of this work, and editor of the bulletin. Dr. Russ has already rendered most valuable volunteer service in these directions.

FINANCIAL REPORT.

The report of the acting chief clerk gives the statistical details of the receipts and expenditures of the Board during the past two years, and some interesting data upon the volume of administrative business of the Secretary's office. There is an imperative need for the addition of a chief clerk, as a permanent officer, and of an additional catalogue for the vital statistics records.

THE ATTORNEY FOR THE BOARD.

The Board has had a large amount of business for its attorney during the past two years. In addition to the large amount of routine work connected with the pure food and drug hearings, many opinions on administrative points have been required and a number of important legal investigations have been necessitated. The legal points and testimony incident to the investigation of cold-storage practices, with special reference to eggs, required a great deal of time. The prosecution of the test case, in the enforcement of the vaccination law, is another instance of an important and extensive legal problem with which the Board has had to deal.

REPORT TO THE THIRTY-NINTH LEGISLATURE.

In accordance with the law, the Board will present to the thirty-ninth legislature, a report upon a number of changes in existing laws, and possibly may recommend several new laws designed to increase the efficiency of public health administration within the State. But the chief need of health conservation in California to-day is not new laws, but adequate appropriations.

THE GOVERNOR'S ATTITUDE.

The Board has been most fortunate in the continued and active interest of the Governor in the progress of its work. Governor Gillett believes that the health control of the State must be in the charge of competent officers who are not in any way influenced by political matters nor handicapped by unwise restrictions. In large measure the progress which has been possible in the past two years, is due to his unfailing support of the policies of the Board.

Respectfully submitted.

MARTIN REGENSBURGER, M.D.,
President.
W. LE MOYNE, M.D.
W. A. BRIGGS, M.D.
F. K. AINSWORTH, M.D.
JAMES H. PARKINSON, M.D.
O. STANSBURY, M.D.
W. F. SNOW, M.D.

REPORT OF THE PERMANENT SECRETARY.

In presenting this report upon the work of the past two years your present secretary has necessarily acted as editor for the fiscal year 1908-09, former Secretary Foster having continued in office to June 26, 1909.

CALIFORNIA'S HEALTH DURING THE PAST TWO YEARS.

Comparatively, one may say that California's health has been good during the past two years. There have been many "beginnings" of epidemics which have required hard work on the part of health officials and citizens, and have caused great anxiety for the time, but which have yielded to modern methods of fighting communicable diseases as our grass fires yield to experienced fire-fighters who are early on the spot.

Bubonic plague has been an ever present source of anxiety. At practically every meeting of the Board during the past two years, some phase of this serious problem has been discussed. Only six deaths have occurred since January, 1908, as contrasted with 82 deaths for the year 1907 alone, and the rat-population of all the bay cities has been maintained free from plague, but the squirrel-population of most of the counties bounded by the bay of San Francisco, the San Joaquin River, the Tehachapi Mountains, and the ocean, is known to be infected. The prevalence varies but sufficient foci exist in this area to make it imperative, that the State and the nation shall put forth every effort necessary to eradicate this disease from California.

Typhoid fever has cost the State the lives of 1,001 citizens during the years 1908 and 1909. Our morbidity reports are not yet reliable, but these deaths indicate upwards of 10,000 cases of typhoid, representing probably four or five thousand outbreaks which yielded to the efforts of local communities to stamp out the disease. The Board has records of several hundred such outbreaks, in which its advice or investigation has been requested. The Board should have adequate funds to enforce the stringent laws against pollution of streams and domestic water supply. Unless the State can adequately protect the mountain streams and water supplies of summer resorts, the millions of dollars being invested by the progressive cities and towns in sewers and good water supplies will be in large measure defeated. These cities will have safe water and their sewage will not endanger them, but their citizens will not be protected from disease brought in by milk and vegetables from farms in the unprotected country, nor from diseases their citizens may contract during the vacation residence in camps and hotels in the mountains.

Malaria has taken its toll of human lives amounting to 192 for 1908 and 1909, but the active growth of citizens' organizations to fight the malaria-carrying mosquito, and the open policy of encouragement adopted by the newspapers, bid fair to make this needless loss of life and attendant expense a thing of the past.

Diphtheria, whooping-cough, scarlet fever, and measles—"the little four," as they have been aptly termed in contrast to "the big five:" Tuberculosis, syphilis, gonococcus infections, malaria, and typhoid fever"—have traveled the length of the State, attacking many and leaving death for a few, but these few aggregate 1,298 for the two years 1908-1909.

Diphtheria has assumed epidemic proportions many times during these years but has of necessity yielded to the scientific methods of running it down by throat cultures and the early use of antitoxin. There were 391 deaths from dipththeria in 1908, 248 in 1909. In 1908 the outbreak at the state hospital at Patton, required much time and expense before being finally brought under control.

Whooping-cough (149 deaths, 1908 to 217 deaths 1909);
Scarlet fever (104 deaths 1908 to 69 deaths 1909);
Measles (101 deaths 1908 to 119 deaths 1909),
can not be effectively combated by the health officers until citizens themselves have created the public sentiment necessary to securing the complete and prompt reporting of all cases and suspected cases, and the strict observance of all instructions for the control of these diseases.

Tuberculosis remains secure in its lead as a cause of death and expense to the State. It has claimed 9,238 lives during 1908 and 1909. This is nine times the loss of life due to typhoid fever and seven times the combined losses from the "little four" group. The State Board can make little headway against this disease without the necessary weapons —tuberculosis-clinics and sanatoria, and has consequently limited its efforts to public educational work and to assisting in every way possible the valuable work of the tuberculosis associations. Unquestionably the State has a duty to perform in developing the facilities for preventing this frightful annual loss of life.

Syphilis among the parasitic causes of disease is the one great rival of tuberculosis as a cause of preventable death and inefficiency. In this disease, not only are there no morbidity reports made, but deaths caused by it are not truthfully reported except in rare instances. In syphilis, as in alcoholism, it may be stated that "no one with any friends or standing in the community dies of it," which means that somewhere in disguise scattered through the twenty thousand deaths recorded for circulatory, nervous, childbirth, early infancy diseases, and here and there among the forty-two thousand deaths due to other causes during the past two years, there are probably ten thousand deaths due directly or in large measure to syphilis.

The Board has made a beginning in the attack upon this disease. In December, 1909, an exhibit was prepared which attracted some attention. One bulletin has been devoted to syphilis and gonococcus infections. The space devoted to this subject in the sanitation car was the means of rousing interest in many parts of the State. The Association for the Study and Prevention of Syphilis and Gonorrhœa has done excellent work, and has been encouraged by the Board.

Gonococcus infections cost many lives and great inefficiency, particularly among California's young men and women. The fact that in a large majority of instances this disease has been contracted by young men "sowing their wild oats," has led to a false policy of silence which has been the chiefest ally of the gonococcus in making victims of innocent women and children. The women become infected by husbands who have never known that gonorrhoea is a "germ" disease that may lie dormant for many years without apparent ill health being manifested in the individual harboring the disease. Children's eyes become infected at birth, because physicians will not use the precaution of disinfecting the eyes of all new-born babies, lest they throw suspicion on some parents who would resent it. In 1909 the Board adopted resolutions advocating the general use of the Credé silver nitrate method in disinfecting the eyes of all new-born children. It is very desirable that the State Board of Health should take final action placing syphilis and gonococcus infections on the reportable list.*

Pneumonia, among other important diseases due to bacterial invasion, should be noted as steadily decreasing. There were 2,678 deaths in 1907, 2,421 deaths in 1908, and only 2,081 deaths in 1909 from this cause. On the other hand, deaths from diseases of the nervous system and of the circulatory system have steadily increased. This is also true of "kidney" diseases, and of cancer.

The following tabulation is significant:

Disease.	1906.	1907.	1908.	1909.	Change in 4 years; proportion per 1,000 deaths.
Pneumonia	2,431	2,678	2,421	2,081	15.8 decrease
Nervous system	2,297	2,403	2,422	2,479	1.6 increase
Circulatory system	3,766	4,362	4,540	4,966	31.8 increase
Kidney system	1,622	1,787	1,797	1,858	4.6 increase
Cancer	1,502	1,590	1,737	1,945	11.5 increase

While these diseases with the possible exception of pneumonia, are not communicable, they are in large measure preventable (with the possible exclusion of cancer). The strenuous life, unaccompanied by rational living, is exacting a needless sacrifice of lives even greater in the aggregate than the loss from the strictly communicable diseases. But this loss occurs at a much later period of life, the average (except for pneumonia) being 55 to 60 years when the expectation for life is not more than 16 to 20 years. Pneumonia, like tuberculosis, typhoid, etc., causes death at an average age of 30 to 35 years, when the expectation for life is 33 to 35 years; while victims of diphtheria and scarlet fever average 3 years at death, with an expectation of 50 to 55 more years of life; and measles and whooping-cough, average 1 year, with an expectation of 50 years and over.

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* This action was taken October 1, 1910.

ADMINISTRATIVE WORK OF THE BOARD.

The foregoing figures on the prevalence of certain diseases constitute an index to the work of the Secretary's office. The limited funds and facilities of the Board have been directed to those foci of disease which have been most important. Typhoid fever and diphtheria have been actively fought wherever they have appeared. The hygienic laboratory has been utilized to discover cases of these diseases and to determine when quarantine precautions are no longer necessary. The Secretary and Medical Inspector Russ have spent much time in field investigations of the source of epidemics from these diseases.

The laboratory has also been largely used in locating foci of tuberculosis and malaria, but the chief efforts of the Board have been directed toward popular education concerning these diseases. Many lectures and demonstrations have been given, and a large amount of literature has been sent out to interested citizens. These measures have resulted in a large correspondence.

The Board should make laboratory examinations for the gonococcus, and effect arrangements with the lunacy commission for making examinations for syphilis. This latter technique could not be thrown open to the general physicians at present, but should be made available for the State's medical examiners for insanity.

MORBIDITY AND MORTALITY REPORTS.

The office work has been increased over 30 per cent by the growth of the vital statistics records and correspondence since 1907. The efforts of the Secretary to carry into effect the determination of the Board to make the reporting of all communicable diseases complete and prompt has necessitated a great increase in the routine office work, but the response from the local communities and health officials has been most encouraging. Probably not more than 2 per cent of the morbidity was being reported in 1908. This has been increased to an estimated 20 per cent for 1910, with a percentage as high as eighty for the more important diseases.

RELATIONS WITH COUNTY HEALTH OFFICERS.

It has been the policy of the Board to aid in every way possible the upbuilding of the county health office. The incorporated cities can protect themselves to only a limited degree without the coöperation of the county. The milk supplies, vegetables, berries, fruit, meat, and even the water supply in the majority of instances comes from the territory under the jurisdiction of the county health officer. On the other hand, the city's garbage, sewage, and other great wastes are carried out into this same territory. Furthermore, there is a constant interchange of persons between the county and the city. A constantly increasing number of city people are becoming county residents, with business offices in the cities; the yearly exodus of city people to the mountains and the sea coast is rapidly increasing; and the restless army of the temporarily employed travels back and forth between the cheap lodging houses of the city and the homes of the country side. The winter months bring the winter shoppers and pleasure-seekers to the city.

California can not hope to effectively and economically battle against preventable diseases until a strong system of county health offices has been established. The State Board of Health should do everything in its power to bring this about. During the past two years the Board has received and has given invaluable aid in county and intercounty problems. The establishment of substations of the hygienic laboratory, and the provision of sanitary field inspectors, will enable the Board to adequately support county health officers, and encourage by demonstration the provision of local laboratories and inspectors for the more populous counties.

EPIDEMIOLOGICAL INVESTIGATIONS.

Under the Board's instructions the Secretary has carried out such epidemiological investigations as have been possible. These investigations would have been impossible without the efficient and generous unpaid services of a number of Californians.

Dr. Herbert Gunn, of San Francisco, has given much time to a most important study of hookworm in the mining districts of the State. His preliminary report is printed herewith. It constitutes a strong argument for a corps of full-time medical officers available for the extension of such work.

Dr. F. F. Gundrum, of Sacramento, has similarly rendered the State important service in an exacting and time consuming field investigation of acute poliomyelitis anterior. This disease has assumed epidemic proportions this year, and the investigation begun should be actively carried on.

Professor R. R. Long and Miss W. R. D. Randall, of Stanford University, have made a preliminary survey of the agency of rags and employment agencies in the transmission of disease between the cities and country districts.

Through the office staff some work has been done on the prevalence and epidemiology of syphilis and gonococcus infections.

The Board has done what it could to aid the officers of the Federal Government detailed to investigate bubonic plague in California. During the past two years some very important scientific work in the bacteriology and epidemiology of plague has been carried on by Passed Assistant Surgeons G. W. McCoy and W. C. Rucker. Surgeon Rupert Blue, as commanding officer, has directed this work with ability and by prompt adaptation of the new facts to the situation has held the disease under control and relieved California from anxiety over an interstate or international commercial quarantine.

COÖPERATION BETWEEN NEWSPAPERS AND WELFARE ORGANIZATIONS.

There is no single factor of greater significance and promise in the health conservation movement than the activity of the press of California in popularizing authentic information concerning diseases and their prevention. The welfare organizations and the State Board of Health have had the support and encouragement of the editors in all the important advances which have been made. In malaria this has meant more than half the battle. Without this aid the tuberculosis movement would have been seriously crippled. Even the frank attack upon syphilis and gonococcus infections has been supported by many editors, who have had the courage to print articles endorsing this new movement.

It is but justice to these papers to point out that this active policy of the editorial management is at the heavy sacrifice of the financial income derived from the advertisements of the dishonest medicines and "Free Consultation Experts." This is parallel to the physician's sacrifice in actively supporting measures which he knows will increasingly limit his income from the treatment of illness due to these preventable causes.

Such manifestations of faith in policies of health conservation, and determination to succeed regardless of personal sacrifice, promise great strides in the application of preventive medical science in the next five years.

DEPARTMENT REPORTS.

The attention of the Board is directed to the excellent reports which have been presented by the directors of the laboratories and of vital statistics. These reports are full of well organized and most valuable data for permanent filing.

In addition to the regular departments the Board has maintained three divisions of work, experimentally, in order to determine the desirability of permanently enlarging its work in these directions. The Secretary has served as acting director of a bureau of epidemiology, which has organized the correspondence and detailed field work of investigating and eradicating foci of disease. Dr. Raymond Russ, medical inspector of the Board, has acted as director of the bureau of public health information and editor of the bulletin. Mr. N. D. Baker, engineer inspector of the Board, has been assigned the correspondence and investigation of the engineering phases of epidemiological problems. The work of these divisions has amply proved the desirability of establishing them as permanent departments.

The report of Mr. Baker is included as presenting evidence for the need of a sanitary engineering department, equipped with facilities for a sanitary engineering laboratory.

FINANCIAL NEEDS OF THE BOARD.

California ranks twenty-second among the states in the per capita tax for state public health work. Data is available to prove conclusively to any person, sufficiently interested in California's welfare to study the problem of preventable death and disease, that the State is losing annually between seventy-five and one hundred million dollars through these agencies. The tabulation of state appropriations given below is evidence that it is neither unreasonable nor excessive for the State Board of Health to ask the next legislature for at least double its present appropriation. In proportion to Pennsylvania's expenditure, California should spend $500,000 per year in this work.

California's annual appropriation of approximately $37,000 for all purposes is less than 6 per cent of the per capita appropriations for the same purposes in Pennsylvania and the District of Columbia, which rank first and second, respectively, in this list.

STATE.	Per capita Health Appropriation Mills.	Annual Appropriation.	Population.	Total Assessed Valuation.	Per Capita Wealth.
1. Pennsylvania	286	$1,500,000 00	7,665,111	$5,769,777,327	$753 00
2 District of Columbia	205	68,980 00	331,069	312,473,714	950 00
3. Florida	100	75,000 00	752,619	130,671,226	173 00
4. Vermont	75	26,500 00	355,956	185,826,798	522 00
5. Colorado	58	45,000 00	779,024	-------------	---------
6 Utah	53.5	20,000 00	373,351	146,204,650	392 00
7. Idaho	47.8	15,500 00	325,594	120,815,384	371 00
8. Massachusetts	42	140,500 00	3,366,416	4,574,136,145	1,357 00
9. Rhode Island	37	20,000 00	542,610	497,547,560	918 00
10. New Hampshire	31	13,600 00	430,572	249,219,335	579 00
11. Montana	29.6	11,000 00	376,053	280,401,064	745 00
12. New Jersey	28.4	72,000 00	2,537,167	-------------	---------
13. Kansas	27.2	46,000 00	1,690,949	2,511,260,285	1,485 00
14. North Dakota	24	14,000 00	577,056	280,000,000	485 00
15. Delaware	22.5	4,500 00	202,322	-------------	---------
16. Connecticut	22	24,500 00	1,114,756	-------------	---------
17. Maine	20.6	15,250 00	742,371	364,898,714	492 00
18 Virginia	19.4	40,000 00	2,061,612	579,565,539	281 00
19. Washington	18.6	21,250 00	1,141,990	790,419,826	693 00
20. Indiana	17.9	50,000 00	2,700,876	1,776,132,096	658 00
21. New York	16.6	152,500 00	9,113,614	9,666,118,681	1,058 00
22. California	15.5	37,200 00	2,377,549	2,337,279,720	985 00

This shows that among the above enumerated states California stands fourth in per capita wealth and twenty-second in per capita health appropriation; fifth in total assessed valuation of property and twelfth in total health appropriation; and twelfth in total population. California's health appropriation is 1.6 mills per $100 of assessed valuation as compared with an average for all the states listed above, of 8.6 mills.

NEEDED LEGISLATION.

The paramount need of health legislation is greater appropriations. California has good laws, but laws will not enforce themselves. The State Board of Health should have $100,000 per year to do adequately the important work with which it is now charged by the legislature.

Experience has shown that minor changes are desirable in some of the existing laws. The quarantine laws should be revised; the duties of county health officers should be increased; the laws governing the pollution of streams should be modified and made more effective. There are many arguments in favor of establishing county boards of health, composed possibly of health officer, superintendent of schools, district attorney, surveyor, recorder.

THE EVER-PRESENT PROBLEM.

The first report of the California State Board of Health summarizing the health problems before the citizens of California in 1870—just forty years ago—has this introductory statement:

> "It was the unanimous opinion of the Board not to attempt too much at first, that would swell this report beyond a readable and convenient size for public use, but rather to study those questions only which are pressing most grievously on every class of society, and are endangering the people's safety and curtailing the blessings of life. Accordingly, it was decided to take up the following subjects:
>
> 1. The use of intoxicating liquors.
> 2. Ventilation.
> 3. Schoolroom diseases.
> 4. Female hygiene.
> 5. Municipal relations concerning the dead.
> 6. The supply of water to our cities and towns, for sewerage as well as domestic supply.
> 7. The sanitary architecture of our public buildings.
> 8. The Chinese from a sanitary standpoint.
> 9. The social evil problem."

In presenting a résumé of the unsolved problems of public health with which the present day generation should deal, no better list can be prepared than this of forty years ago, nor could more earnest and powerful arguments be written in support of needed action than those which are printed in the first biennial report of this Board. These problems have remained unsolved largely because the Board has had no funds either for investigation or administration.

A PERSONAL WORD.

In presenting the foregoing report for your consideration your present Secretary is not unmindful of the difficulties and apprehension to which the appointment of a new and untried secretary may give rise among the members and appointees of a board of health.

Your former Secretary, Dr. N. K. Foster, had been your associate in all the upbuilding of the splendid foundation you now possess for the health administration of the State. His resignation necessarily was a source of grave concern. Your present Secretary has tried to carry out your policies and to build on to the structure you have placed in his charge. He desires to take this opportunity to express his appreciation of your encouragement, forbearance, and wise policy of actively directing the policies of the Board without restricting the Secretary's freedom in controlling the administration of those policies and the executive staff. The Secretary further desires to take this opportunity to commend to you the loyalty and efficient work of all the officers and clerical force of the department.

PUBLIC HEALTH AND POLITICS.

In reappointing the present members of the State Board of Health Governor Gillett said: ''The protection of the public health is too important a thing and concerns too intimately the personal welfare and happiness of every man, woman, and child in the State to permit politics playing any part in its administration. It is your duty to study the health conditions of California, and to initiate such administrative measures as your judgment indicates will improve these conditions. It shall be my policy to support your actions and do every thing in my power to make them effective.''

THE CONSERVATION OF THE HOME.

Conservation of health has now reached the moment of becoming one of the great conservation policies of the day. The ''Conservation of the Home'' will be the great battle cry of the twentieth century.

Respectfully submitted.

WILLIAM F. SNOW,
Secretary.

VITAL STATISTICS.

FOR CALENDAR YEARS 1909 AND 1908.

[NOTE.—The vital statistics are presented for calendar, instead of fiscal years, to correspond with the annual mortality reports of the Federal Census Bureau.]

DEPARTMENT OF VITAL STATISTICS.

GEORGE D. LESLIE, STATISTICIAN.

STATISTICS OF BIRTHS: 1909 AND 1908.

SUMMARY.

Birth Totals and Increase.—The California birth total has risen from 20,974 in 1906 and 24,674 in 1907 to 28,077 in 1908 and 30,882 in 1909, falling short of the death total in 1909 by only 103.

The per cent of increase was 17.6 in 1906 to 1907, 13.8 in 1907 to 1908, and 10.0 in 1908 to 1909, the lowered rate being explained by the fact that when registration has become substantially complete the birth total increases only with natural growth of population.

The birth total for the counties north of Tehachapi was 21,364 in 1909 and 19,049 in 1908, while the corresponding totals for Southern California were, respectively, 9,518 and 9,028.

In 1908 to 1909 forty-three counties showed increases in births, and only fifteen showed decreases.

The increases surpassed the State average, 10.0 per cent, in the following thirty counties: Yolo, Merced, Tuolumne, Amador, Stanislaus, Ventura, Imperial, Placer, Trinity, Sutter, Butte, Mono, Modoc, Yuba, Shasta, Kern, Lassen, Sonoma, Mendocino, Fresno, Sacramento, Kings, Lake, San Joaquin, Santa Clara, Napa, Riverside, Tulare, Del Norte, and Mariposa.

The rate of gain for freeholders' charter cities was 11.4 in 1907 to 1908, and 7.5 in 1908 to 1909 as compared with, respectively, 18.0 and 14.2 for all the rest of the State.

The per cent of increase was above the city average of 7.5 in 1908 to 1909 for each of the following cities: Napa, San José, Watsonville, Grass Valley, Long Beach, Berkeley, Santa Barbara, Riverside, Oakland, San Diego, and San Francisco.

Birth and Death Totals Compared.—There was an excess of births over deaths in San Francisco, the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), and the adjoining coast counties (Monterey, San Benito, San Luis Obispo, Santa Clara, and Santa Cruz) in 1909 alone, as well as in Los Angeles in both 1909 and 1908.

More births than deaths were reported in 1909 for fifteen chartered cities as follows: Eureka, Napa, Santa Rosa, and Grass Valley in Northern California; San Francisco, Alameda, Berkeley, Oakland, Palo Alto, San José, Watsonville, Fresno, and Vallejo in Central California; and Los Angeles and Riverside in Southern California.

The twenty-six freeholders' charter cities in 1909 reported 18,906 births, or 61.2 per cent of the State total, but only 17,472 deaths, or 56.4 per cent of all. In 1908, similarly, the twenty-four chartered cities reported 17,586 births, or 62.6 per cent of all, but only 17,480 deaths, or 55.9 per cent of the State total.

Birth-Rates.—For an estimated midyear population of 2,306,001 in 1909, the 30,882 births give a rate of 13.4, and for an estimated midyear population of 2,215,615 in 1908, the 28,077 births give a rate of 12.7 per 1,000 inhabitants.

The birth-rates in 1909 and 1908, respectively, were 13.3 and 13.5 for Southern California, and 14.1 and 13.0 for Central California, but only 10.7 and 9.3 for Northern California.

The birth-rates were much higher each year for San Francisco and the other bay counties than for the rural counties of Northern and Central California.

The individual counties with birth-rates above the State averages each year were: Santa Clara, Lake, San Francisco, Fresno, Kings, Alameda, Riverside, Los Angeles, San Mateo, Nevada, and Madera.

The birth-rates equaled or exceeded the general averages for cities in 1908, than for the rest of the State, only 11.3 and 10.1, respectively.

The birth-rate equalled or exceeded the general averages for cities each year in Eureka, Alameda, Fresno, Santa Rosa, Berkeley, Riverside, San Bernardino, Vallejo, San Francisco, and Los Angeles, as well as in Oakland.

General Birth Statistics.—The 30,882 babies in 1909 included 16,150 boys and 14,732 girls, while of the 28,077 in 1908, 14,516 were male and 13,561 were female. The per cent male was 52.3 for 1909 against 51.7 for 1908, the preponderance of male births increasing somewhat.

For births in freeholders' charter cities the per cents male were 52.2 and 51.7 in 1909 and 1908, respectively, against 52.5 and 51.7 for the rest of California.

The race distribution of births in 1909 was: White, 29,736; Japanese, 682; negro, 222; Chinese, 208; and Indian, 34. For 1908 the figures were: White, 27,190; Japanese, 455; Chinese, 227; negro, 186; and Indian, 19. The per cent white was 96.3 for 1909 as compared with 96.8 for 1908.

For chartered cities the per cent white was 96.1 in 1909 and 96.4 in 1908, while for the rest of the State the per cents white were 96.6 and 97.6, respectively.

The preponderance of males is greater, both within cities and outside them, among the few non-Caucasian babies than among the many white infants.

The nativity of the white mothers in 1909 was: Born in other states, 10,700, or 36.0 per cent; born in California, 10,544, or 35.5 per cent; and foreign born, 8,492, or 28.5 per cent. The figures for 1908 were: Other states, 10,099, or 37.2 per cent; California, 9,469; or 34.8 per cent; and foreign, 7,622, or 28.0 per cent.

For cities the per cent of mothers born in other states was 34.1 in 1909 and 36.2 in 1908; the per cents born in California were 33.4 and 32.4; and the per cents foreign born were 32.5 and 31.4. For the rural districts the per cents in 1909 and 1908 were, respectively: Other states, 38.9 and 38.7; California, 38.7 and 38.8; and foreign, 22.4 and 22.5.

In both 1909 and 1908 the per cent male for the whole State was lower among children of California mothers than among those of other American or foreign born mothers, though differences between geographic divisions and between urban and rural districts prevent the drawing of general conclusions about the effect of maternal nativity on the preponderance of male births.

Nativity of Brides and Mothers.—Comparison of the per cent distribution of white brides and mothers, by nativity, shows that throughout California a larger portion of the brides than of the mothers were born in this State. Similarly, but in less degree, a larger proportion of the brides than the mothers were natives of other states. On the other hand, a much larger proportion of the mothers than of the brides in California were foreign born.

There is likewise an excess in the per cent born in California among single brides over that among mothers, though there is relatively little difference in the per cents born elsewhere in the United States for single brides and mothers. However, there is a great excess in the per cent born abroad among mothers over that for single brides.

It seems, therefore, that in California, as elsewhere in the United States, the fecundity of foreign born women is greater than that of native women, whether born in California or other states.

BIRTH TOTALS AND INCREASE.

The State.—Under the law of 1905 requiring physicians and midwives to file birth certificates with County Recorders and City Health Officers for transmittal to the State Bureau of Vital Statistics, there has been a marked improvement in the completeness of birth registration in California. Returns are now available for the four calendar years 1906 to 1909, inclusive, and they show a steady rise in the birth total, as appears from the following table giving the birth total compared with death and marriage totals:

TABLE 1.—*Birth Total Compared with Death and Marriage Totals, for California: 1906 to 1909.*

	1909.	1908.	1907.	1906.
Births	30,882	28,077	24,674	20,974
Deaths	30,985	31,287	31,095	29,303
Marriages	22,917	21,739	23,005	21,317

While the death and marriage totals for California have fluctuated comparatively little in the four years, each having both risen and fallen somewhat, the birth total has grown steadily greater in successive years, rising from 20,974 in 1906 to 24,674 in 1907, 28,077 in 1908, and 30,882 in 1909. For 1909, in fact, the birth total falls short of the death total by only 103, stillbirths being excluded in both cases.

The increase of births for California is shown in the table which follows:

TABLE 2.—*Increase of Births, for California: 1906 to 1909.*

YEAR.	California Births.	Increase.	Per Cent
1909	30,882	2,805	10.0
1908	28,077	3,403	13.8
1907	24,674	3,700	17.6
1906	20,974	--------	--------

The increase of 3,700 or 17.6 per cent in 1906 to 1907 was followed by one of 3,403 or 13.8 per cent in 1907 to 1908 and by one of 2,805 or 10.0 per cent in 1908 to 1909. The number and per cent of increase necessarily grow less and less as registration becomes more and more complete, since the early gains were swollen by improved registration while recent gains include little except the natural growth of population.

Geographic Divisions.—The following table shows the increase of births for geographic divisions in the three years 1907 to 1909, inclusive:

TABLE 3.—*Increase of Births, for Geographic Divisions: 1907 to 1909.*

GEOGRAPHIC DIVISION.	Births.			Increase.		Per Cent of Increase.	
	1909.	1908.	1907.	1908 to 1909.	1907 to 1908	1908 to 1909.	1907 to 1908.
THE STATE	30,882	28,077	24,674	2,805	3,403	10.0	13.8
Northern California	3,155	2,698	2,405	457	293	16.9	12.2
Coast counties	1,336	1,151	953	185	198	16.1	20.8
Interior counties	1,819	1,547	1,452	272	95	17.6	6.5
Central California	18,209	16,351	14,347	1,858	2,004	11.4	14.0
San Francisco	6,630	6,058	5,128	572	930	9.4	18.1
Other bay counties	4,534	4,262	3,944	272	318	6.4	8.1
Coast counties	2,216	2,063	1,924	153	139	7.4	7.2
Interior counties	4,829	3,968	3,351	861	617	21.7	18.4
Southern California	9,518	9,028	7,922	490	1,106	5.4	14.0
Los Angeles	6,710	6,404	5,823	306	581	4.8	10.0
Other counties	2,808	2,624	2,099	184	525	7.0	25.0
Northern and Central California	21,364	19,049	16,752	2,315	2,297	12.2	13.7
Coast counties	14,716	13,534	11,949	1,182	1,585	8.7	13.3
Interior counties	6,648	5,515	4,803	1,133	712	20.5	14.8
Metropolitan area	11,164	10,320	9,072	844	1,248	8.2	13.8
Rural counties	10,200	8,729	7,680	1,471	1,049	16.9	13.7

The high rates of gain since 1907 shown for certain groups of counties, such as the coast counties of Northern California and the interior counties of Central California, indicate that there has been much improvement in the registration of births in districts where registration has heretofore been rather incomplete. On the other hand, the relatively low rates of gain, especially for 1908 to 1909, shown for other geographic divisions, indicate that in these cases birth registration had become substantially complete by 1908 so that the increase for 1909 reflects mainly the gain in the number of births actually occurring. This explains the relatively low per cents of increase in 1908 to 1909 shown for San Francisco, 9.4; other bay counties, 6.4; coast counties of Central California, 7.4; Los Angeles, 4.8; and other counties of Southern California, 7.0.

The birth total for the counties north of Tehachapi was 21,364 in 1909, against 19,049 in 1908, a gain of 2,315, or 12.2 per cent. The totals for Southern California were 9,518 in 1909 and 9,028 in 1908, an increase of 490, or 5.4 per cent.

The per cent of increase was 11.4 for Central California and 16.9 for Northern California, or 12.2 for both together. The per cent was 8.2 for the metropolitan area comprising San Francisco and the other bay counties, as compared with 16.9 for the rural counties north of Tehachapi.

Counties.—The table on the following page gives the increase (or decrease) of births for each county, as well as the per cent of increase for those showing gains in 1909 over 1908.

The high rates of gain, of over 100 per cent, shown for Yolo, Merced, Tuolumne, and Amador counties, are evidently due to the incompleteness of the returns for 1908, and the same explanation applies in part to the rates of 75.7 for Stanislaus, 73.7 for Ventura, 61.7 for Imperial, and 52.2 for Placer.

The per cents of increase were next highest for the following counties: Trinity, 45.0; Sutter, 44.4; Butte, 40.2; Mono, 37.5; Modoc, 36.7; Yuba 31.1; Shasta, 29.2; Kern, 27.9; Lassen, 22.9; Sonoma, 22.2; Mendocino, 21.8; Fresno, 18.1; Sacramento, 17.3; Kings, Lake, and San Joaquin, each 16.3: Santa Clara, 15.4; Napa, 14.6; Riverside, 13.8; Tulare, 13.4; Del Norte, 10.7; and Mariposa, 10.0. Each of these twenty-two counties shows a rate of gain equaling or exceeding the average rate for the State, 10.0 per cent.

TABLE 4.—*Increase of Births, for Counties: 1903 to 1909.*

COUNTY	Births.		Increase.	Decrease.	Per Cent of Increase.
	1909.	1908.			
CALIFORNIA	30,882	28,077	2,805	--------	10.0
Alameda	3,641	3,323	318	--------	9.6
Alpine	4	7	--------	3	--------
Amador	96	45	51	--------	113.3
Butte	366	261	105	--------	40.2
Calaveras	126	115	11	--------	9.6
Colusa	73	79	--------	6	--------
Contra Costa	288	292	--------	4	--------
Del Norte	31	28	3	--------	10.7
El Dorado	86	98	--------	12	--------
Fresno	1,168	989	179	--------	18.1
Glenn	42	41	1	--------	2.4
Humboldt	430	397	33	--------	8.3
Imperial	97	60	37	--------	61.7
Inyo	21	28	--------	7	--------
Kern	243	190	53	--------	27.9
Kings	243	209	34	--------	16.3
Lake	93	80	13	--------	16.3
Lassen	43	35	8	--------	22.9
Los Angeles	6,710	6,404	306	--------	4.8
Madera	111	106	5	--------	4.7
Marin	249	302	--------	53	--------
Mariposa	22	20	2	--------	10.0
Mendocino	173	142	31	--------	21.8
Merced	103	44	59	--------	134.1
Modoc	67	49	18	--------	36.7
Mono	11	8	3	--------	37.5
Monterey	264	266	--------	2	--------
Napa	173	151	22	--------	14.6
Nevada	211	206	5	--------	2.4
Orange	365	395	--------	30	--------
Placer	175	115	60	--------	52.2
Plumas	43	46	--------	3	--------
Riverside	504	443	61	--------	13.8
Sacramento	836	713	123	--------	17.3
San Benito	64	61	3	--------	4.9
San Bernardino	665	638	27	--------	4.2
San Diego	624	628	--------	4	--------
San Francisco	6,630	6,058	572	--------	9.4
San Joaquin	577	496	81	--------	16.3
San Luis Obispo	195	203	--------	8	--------
San Mateo	356	345	11	--------	3.2
Santa Barbara	315	323	--------	8	--------
Santa Clara	1,387	1,202	185	--------	15.4
Santa Cruz	306	331	--------	25	--------
Shasta	261	202	59	--------	29.2
Sierra	29	37	--------	8	--------
Siskiyou	238	261	--------	23	--------
Solano	339	332	7	--------	2.1
Sonoma	407	333	74	--------	22.2
Stanislaus	253	144	109	--------	75.7
Sutter	91	63	28	--------	44.4
Tehama	83	78	5	--------	6.4
Trinity	29	20	9	--------	45.0
Tulare	405	357	48	--------	13.4
Tuolumne	73	32	41	--------	128.1
Ventura	238	137	101	--------	73.7
Yolo	112	35	77	--------	220.0
Yuba	97	74	23	--------	31.1

There were also increases in births, but at the rates below the State average, in the following thirteen counties, arranged in descending order: Alameda and Calaveras, each 9.6; San Francisco, 9.4; Humboldt, 8.3; Tehama, 6.4; San Benito, 4.9; Los Angeles, 4.8; Madera, 4.7; San

Bernardino, 4.2; San Mateo, 3.2; Glenn and Nevada, each 2.4; and Solano, 2.1.

According to the registration, there were decreases in births for 1909, as compared with 1908, in the following fifteen counties arranged alphabetically: Alpine, Colusa, Contra Costa, El Dorado, Inyo, Marin, Monterey, Orange, Plumas, San Diego, San Luis Obispo, Santa Barbara, Santa Cruz, Sierra, and Siskiyou.

Cities.—The County Recorder is ex officio local registrar of births, except that in cities having freeholders' charters the Health Officer so acts. Birth totals are therefore available only for chartered cities, of which there were twenty-six in 1909 and twenty-four in 1908 and 1907. The two additional cities were Palo Alto, reporting only 62 births, and Richmond, reporting only 36. The following table shows the increase of births for individual cities and the rest of the State in the three years 1907 to 1909, inclusive, the cities being arranged according to geographic location:

TABLE 5.—*Increase of Births, for Individual Cities and Rest of State: 1907 to 1909.*

CITY.	Births.			Increase.		Per Cent of Increase.	
	1909.	1908.	1907.	1908 to 1909.	1907 to 1908.	1908 to 1909.	1907 to 1908.
CALIFORNIA	30,882	28,077	24,674	2,805	3,403	10.0	13.8
Freeholders' charter cities	18,906	17,586	15,786	1,320	1,800	7.5	11.4
Northern California.							
Eureka	245	245	90	------	155	------	172.2
Napa	103	76	78	27	2*	35.5	2.6*
Santa Rosa	136	131	162	5	31*	3.8	19.1*
Grass Valley	70	58	77	12	19*	20.7	24.7*
Central California.							
San Francisco	6,630	6,058	5,128	572	930	9.4	18.1
Alameda	411	413	378	2*	35	0.5*	9.3
Berkeley	669	567	510	102	57	18.0	11.2
Oakland	2,024	1,826	1,824	198	2	10.8	0.1
Richmond	36	--------	--------	36	------	------	------
Salinas	53	75	60	22*	15	29.3*	25.0
Palo Alto	62	--------	--------	62	------	------	------
San Jose	459	367	382	92	15*	25.1	3.9*
Santa Cruz	135	168	182	33*	14*	19.6*	7.7*
Watsonville	111	91	86	20	5	22.0	5.8
Fresno	421	419	384	2	35	0.5	9.1
Sacramento	529	523	442	6	81	1.1	18.3
Stockton	281	262	231	19	31	7.3	13.4
Vallejo	186	183	149	3	34	1.6	22.8
Southern California.							
Los Angeles	4,548	4,399	4,201	149	198	3.4	4.7
Long Beach	223	188	158	35	30	18.6	19.0
Pasadena	409	436	440	27*	4*	6.2*	0.9*
Santa Monica	83	93	70	10*	23	10.8*	32.9
Riverside	250	225	105	25	120	11.1	114.3
San Bernardino	207	219	188	12*	31	5.5*	16.5
San Diego	467	423	332	44	91	10.4	27.4
Santa Barbara	158	141	129	17	12	12.1	9.3
Rest of State	11,976	10,491	8,888	1,485	1,603	14.2	18.0

*Decrease.

For chartered cities as a class the birth total was 18,906 in 1909, against 17,586 in 1908 and 15,786 in 1907, the increase for 1908 to 1909 being 1,320 or 7.5 per cent, as compared with 1,800 or 11.4 per cent for 1907 to 1908.

For all the rest of the State the total was 11,976 in 1909, 10,491 in 1908 and 8,888 in 1907, the gain being 1,485 or 14.2 per cent for 1908 to 1909 and for 1907 to 1908 being 1,603 or 18.0 per cent.

The lower rates of gain shown for cities as a class than for the rest of the State indicate that in cities birth registration has heretofore been more complete than in rural districts. The gains in rural districts are still due largely to growing improvement in registration rather than to increasing numbers of births alone.

The per cents of increase were above the city average of 7.5 in 1908 to 1909 for the following cities: Napa, 35.5; San Jose, 25.1; Watsonville, 22.0; Grass Valley, 20.7; Long Beach, 18.6; Berkeley, 18.0; Santa Barbara, 12.1; Riverside, 11.1; Oakland, 10.8; San Diego, 10.4; and San Francisco, 9.4. Cities with rates of gain below the general average were as follows: Stockton, 7.3; Santa Rosa, 3.8; Los Angeles, 3.4; Vallejo, 1.6; Sacramento, 1.1; and Fresno, 0.5. Eureka reported the same number of births in 1909 as in 1908, while the following cities reported fewer births for 1909 than for 1908, viz.: Alameda, Salinas, Santa Cruz, Pasadena, Santa Monica, and San Bernardino.

It may be noted that the 18,906 births in the twenty-six freeholders' charter cities in 1909 form 61.2 per cent of the 30,882 births registered in the whole State, and that the 17,586 births in the twenty-four chartered cities in 1908 form 62.6 per cent of the 28,077 in the entire State.

BIRTH AND DEATH TOTALS COMPARED.

Geographic Divisions.—Comparison of the birth and death totals for geographic divisions in 1909 and 1908, given in Table 6, shows that in 1908 Los Angeles County was the only minor geographic division reporting an excess of births over deaths. In 1909, however, there was an excess of births over deaths not only in Los Angeles County, but also in San Francisco, the group of other bay counties (Alameda, Contra Costa, Marin, and San Mateo), and in the coast counties of Central California (Monterey, San Benito, San Luis Obispo, Santa Clara, and Santa Cruz). Each year the excess of births over deaths in Los Angeles was greater than the excess of deaths over births in the other counties south of Tehachapi, so that Southern California as a whole showed a slight excess of births over deaths. In 1909 the excess of births over deaths in the metropolitan area (San Francisco and the other bay counties) fell somewhat short of the excess of deaths over births in the rural counties, so that for the counties north of Tehachapi there was still an excess of deaths over births. The detailed figures are as follows:

TABLE 6.—*Birth and Death Totals Compared, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	1909.		1908.		1909, Excess of—		1908, Excess of—	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
THE STATE	30,882	30,985	28,077	31,287	-------	103	-------	3,210
Northern California	3,155	3,946	2,698	4,148	-------	791	-------	1,450
Coast counties	1,336	1,913	1,151	1,943	-------	577	-------	792
Interior counties	1,819	2,033	1,547	2,205	-------	214	-------	658
Central California	18,209	17,599	16,351	18,145	610	-------	-------	1,794
San Francisco	6,630	6,150	6,058	6,260	480	-------	-------	202
Other bay counties	4,534	4,108	4,262	4,265	426	-------	-------	3
Coast counties	2,216	2,167	2,063	2,131	49	-------	-------	68
Interior counties	4,829	5,174	3,968	5,489	-------	345	-------	1,521
Southern California	9,518	9,440	9,028	8,994	78	-------	34	-------
Los Angeles	6,710	6,392	6,404	6,011	318	-------	393	-------
Other counties	2,808	3,048	2,624	2,983	-------	240	-------	359
Northern and Central California	21,364	21,545	19,049	22,293	-------	181	-------	3,244
Coast counties	14,716	14,338	13,534	14,599	378	-------	-------	1,065
Interior counties	6,648	7,207	5,515	7,694	-------	559	-------	2,179
Metropolitan area	11,164	10,258	10,320	10,525	906	-------	-------	205
Rural counties	10,200	11,287	8,729	11,768	-------	1,087	-------	3,039

Cities.—Table 7 presents similar figures for the chartered cities (numbering twenty-six in 1909 and twenty-four in 1908) and for the rest of California.

TABLE 7.—*Birth and Death Totals Compared, for Individual Cities and Rest of State: 1909 and 1908.*

CITY.	1909.		1908.		1909, Excess of—		1908, Excess of—	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
CALIFORNIA	30,882	30,985	28,077	31,287	-------	103	-------	3,210
Freeholders' charter cities	18,906	17,472	17,586	17,480	1,434	-------	106	-------
Northern California.								
Eureka	245	180	245	198	65	-------	47	-------
Napa	103	70	76	77	33	-------	-------	1
Santa Rosa	136	105	131	107	31	-------	24	-------
Grass Valley	70	58	58	88	12	-------	-------	30
Central California.								
San Francisco	6,630	6,150	6,058	6,260	480	-------	-------	202
Alameda	411	309	413	345	102	-------	68	-------
Berkeley	669	405	567	448	264	-------	119	-------
Oakland	2,024	1,642	1,826	1,646	382	-------	180	-------
Richmond	36*	92	-------	-------	-------	56*	-------	-------
Salinas	53	68	75	63	-------	15	12	-------
Palo Alto	62*	48	-------	-------	14*	-------	-------	-------
San Jose	459	386	367	389	73	-------	-------	22
Santa Cruz	135	190	168	167	-------	55	1	-------
Watsonville	111	103	91	103	8	-------	-------	12
Fresno	421	288	419	365	133	-------	54	-------
Sacramento	529	698	523	755	-------	169	-------	232
Stockton	281	455	262	481	-------	174	-------	219
Vallejo	186	172	183	192	14	-------	-------	9
Southern California.								
Los Angeles	4,548	4,013	4,399	3,752	535	-------	647	-------
Long Beach	223	235	188	219	-------	12	-------	31
Pasadena	409	410	436	373	-------	1	63	-------
Santa Monica	83	103	93	110	-------	20	-------	17
Riverside	250	238	225	204	12	-------	21	-------
San Bernardino	207	250	219	262	-------	43	-------	43
San Diego	467	601	423	701	-------	134	-------	278
Santa Barbara	158	203	141	175	-------	45	-------	34
Rest of State	11,976	13,513	10,491	13,807	-------	1,537	-------	3,316

*Birth returns incomplete.

Table 7 shows that for cities as a class, the excess of births over deaths rose from only 106 in 1908 to no less than 1,434 in 1909. For the rest of the State, the excess of deaths over births fell from 3,316 in 1908 to 1,537 in 1909. The table shows, further, that in 1908 only eleven of twenty-four cities reported more births than deaths, while in 1909 as many as fifteen of twenty-six cities had birth totals exceeding the death totals.

The fifteen cities reporting more births than deaths in 1909 were as follows: Eureka, Napa, Santa Rosa, and Grass Valley in Northern California; San Francisco, Alameda, Berkeley, Oakland, Palo Alto, San Jose, Watsonville, Fresno, and Vallejo in Central California; and Los Angeles and Riverside in Southern California.

Eleven cities reported fewer births than deaths in 1909, these cities being as follows: Richmond, Salinas, Santa Cruz, Sacramento, and

Stockton, north of Tehachapi; and Long Beach, Pasadena, Santa Monica, San Bernardino, San Diego, and Santa Barbara, south of Tehachapi.

It may be added that while 61.2 per cent of all births in California in 1909 occurred in the twenty-six freeholders' charter cities, only 56.4 per cent of all deaths in the State occurred in these cities. In 1908, similarly, while 62.6 per cent of all births were in the twenty-four chartered cities only 55.9 per cent of all deaths were in these same cities.

BIRTH-RATES.

Population Estimates.—With the publication of the Federal Census results for 1910, population estimates for preceding years can be revised with strict accuracy on the basis of county and city totals for June 1, 1900, and April 15, 1910, the estimates being made for the sake of uniformity as of July 1, or the middle of each year. The estimated midyear population for both 1908 and 1908 has been calculated on the assumption that the numerical increase (or decrease) was the same each month between June 1, 1900, and April 15, 1910. The average monthly increase is obtained by dividing the increase for the whole decade by 118.5 (the number of months between June 1, 1900, and April 15, 1910), and the total increase to July 1, 1908, is then got by multiplying by 97 (the number of months between June 1, 1900, and July 1, 1908), the increase to July 1, 1909, being obtained similarly by multiplying by 109 (the number of months between June 1, 1900, and July 1, 1909). The estimated midyear population for 1908 and 1909 is found, finally, by adding to the population enumerated June 1, 1900, the estimated increase to July 1, 1908 or 1909, as the case may be.*

Geographic Divisions.—For convenience in tabulation the fifty-eight counties of California have been grouped in three main and eight minor geographic divisions, shown in the table which follows, the counties in each group being arranged alphabetically for the sake of ready reference. Birth-rates are also shown for the metropolitan area, comprising San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), in contrast with the rural counties of Northern and Central California.

The following table gives the estimated midyear population, births, and birth-rate per 1,000 population for the several counties arranged by geographic divisions in both 1909 and 1908:

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*The estimated midyear population for Alameda County, for instance, was obtained as follows:

Population enumerated April 15, 1910	246,131
Population enumerated June 1, 1900	130,197
Increase, June 1, 1900, to April 15, 1910 (118.5 months)	115,934
Increase, June 1, 1900, to July 1, 1909 (× 109 ÷ 118 5)	106,640
Increase, June 1, 1900, to July 1, 1908 (× 97 ÷ 118.5)	94,900
Estimated midyear population, 1909	236,837
Estimated midyear population, 1908	225,097

Similarly, the estimated midyear population for Alameda city was obtained thus:

Population enumerated April 15, 1910	23,383
Population enumerated June 1, 1900	16,464
Increase, June 1, 1900, to April 15, 1910 (118.5 months)	6,919
Increase, June 1, 1900, to July 1, 1909 (× 109 ÷ 118 5)	6,364
Increase, June 1, 1900, to July 1, 1908 (× 97 ÷ 118.5)	5,663
Estimated midyear population, 1909	22,828
Estimated midyear population, 1908	22,127

TABLE 8.—*Estimated Midyear Population, Births, and Birth-rate per 1,000 Population, for Counties arranged Geographically: 1909 and 1908.*

COUNTY.	Estimated Midyear Population.		Births.		Birth-rate per 1,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	2,306,001	2,215,615	30,882	28,077	13.4	12.7
Northern California	295,108	290,858	3,155	2,698	10.7	9.3
Coast counties	135,468	133,247	1,336	1,151	9.9	8.6
Del Norte	2,416	2,415	31	28	12.8	11.6
Humboldt	33,316	32,632	430	397	12.9	12.2
Lake	5,565	5,615	93	80	16.7	14.2
Mendocino	23,652	23,301	173	142	7.3	6.1
Napa	19,532	19,192	173	151	8.9	7.8
Sonoma	47,599	46,595	407	333	8.6	7.1
Trinity	3,388	3,497	29	20	8.6	5.7
Interior counties	159,640	157,611	1,819	1,547	11.4	9.8
Butte	26,485	25,453	366	261	13.8	10.3
Colusa	7,702	7,665	73	79	9.5	10.3
Glenn	7,010	6,805	42	41	6.0	6.0
Lassen	4,779	4,749	43	35	9.0	7.4
Modoc	6,102	5,989	67	49	11.0	8.2
Nevada	15,182	15,469	211	206	13.9	13.3
Placer	18,041	17,792	175	115	9.7	6.5
Plumas	5,211	5,150	43	46	8.3	8.9
Shasta	18,792	18,629	261	202	13.9	10.8
Sierra	4,092	4,083	29	37	7.1	9.1
Siskiyou	18,654	18,467	238	261	12.8	14.1
Sutter	6,293	6,248	91	63	14.5	10.1
Tehama	11,369	11,328	83	78	7.3	6.9
Yuba	9,928	9,784	97	74	9.8	7.6
Central California	1,295,427	1,254,567	18,209	16,351	14.1	13.0
San Francisco	410,969	403,462	6,630	6,058	16.1	15.0
Other bay counties	317,200	301,660	4,534	4,262	14.3	14.1
Alameda	236,837	225,097	3,641	3,323	15.4	14.8
Contra Costa	30,581	29,201	288	292	9.4	10.0
Marin	24,359	23,406	249	302	10.2	12.9
San Mateo	25,423	23,956	356	345	14.0	14.4
Coast counties	158,293	154,559	2,216	2,063	14.0	13.3
Monterey	23,764	23,281	264	266	11.1	11.4
San Benito	7,928	7,786	64	61	8.1	7.8
San Luis Obispo	19,163	18,885	195	203	10.2	10.7
Santa Clara	81,669	79,307	1,387	1,202	17.0	15.2
Santa Cruz	25,769	25,300	306	331	11.9	13.1
Interior counties	408,965	394,886	4,829	3,968	11.8	10.0
Alpine	325	345	4	7	12.3	20.3
Amador	9,249	9,454	96	45	10.4	4.8
Calaveras	9,334	9,539	126	115	13.5	12.1
El Dorado	7,612	7,763	86	98	11.3	12.6
Fresno	72,627	68,800	1,168	989	16.1	14.4
Inyo	6,766	6,503	21	28	3.1	4.3
Kern	36,013	33,862	243	190	6.7	5.6
Kings	15,720	15,076	243	209	15.5	13.9
Madera	8,207	8,004	111	106	13.5	13.2
Mariposa	4,017	4,095	22	20	5.5	4.9
Merced	14,672	14,072	103	44	7.0	3.1
Mono	2,052	2,065	11	8	5.4	3.9
Sacramento	66,051	63,834	836	713	12.7	11.2
San Joaquin	49,506	47,959	577	496	11.7	10.3
Solano	27,285	26,939	339	332	12.4	12.3
Stanislaus	21,482	20,168	253	144	11.8	7.1
Tulare	34,072	32,344	405	357	11.9	11.0
Tuolumne	10,074	10,194	73	32	7.2	3.1
Yolo	13,901	13,870	112	35	8.1	2.5
Southern California	715,466	670,190	9,518	9,028	13.3	13.5
Los Angeels	477,368	443,562	6,710	6,404	14.1	14.4
Other counties	238,098	226,628	2,808	2,624	11.8	11.6
Imperial	13,039	12,302	97	60	7.4	4.9
Orange	33,254	31,762	365	395	11.0	12.4
Riverside	33,349	31,648	504	443	15.1	14.0
San Bernardino	54,399	51,485	665	638	12.2	12.4
San Diego	58,997	55,666	624	628	10.6	11.3
Santa Barbara	27,032	26,141	315	323	11.7	12.4
Ventura	18,028	17,624	238	137	13.2	7.8
Northern and Central California	1,590,535	1,545,425	21,364	19,049	13.4	12.3
Coast counties	1,021,930	992,928	14,716	13,534	14.4	13.6
Interior counties	568,605	552,497	6,648	5,515	11.7	10.0
Metropolitan area	728,169	705,122	11,164	10,320	15.3	14.6
Rural counties	862,366	840,303	10,200	8,729	11.8	10.4

For an estimated midyear population of 2,306,001 in 1909, the 30,882 births registered in California give a birth-rate of 13.4 per 1,000 inhabitants, while for an estimated midyear population of 2,215,615 in 1908, the 28,077 in the State represent a rate of 12.7 per 1,000 population.

It may be noted that for an estimated midyear population of 2,125,240 in 1907, the 24,674 births give a rate of 11.6, while for an estimated midyear population of 2,034,861 in 1906, the 20,974 births give a rate of 10.3.

The birth-rates in 1909 and 1908, respectively, were 13.3 and 13.5 for Southern California as compared with 13.4 and 12.3 for Northern and Central California together, being 14.1 and 13.0 for Central California alone, but only 10.7 and 9.3 for Northern California alone. In both 1909 and 1908 the birth-rate was higher for the coast counties than for the interior counties north of Tehachapi. The rates were much higher each year for the metropolitan area, comprising San Francisco and the other bay counties, 15.3 in 1909 and 14.6 in 1908, than for the rural counties of Northern and Central California, 11.8 in 1909 and 10.4 in 1908. The birth-rates were also higher for Los Angeles, 14.1 and 14.4, than for the rest of Southern California, 11.8 and 11.6.

In 1909 and 1908, respectively, the birth-rates were 16.1 and 15.0 for San Francisco, 14.3 and 14.1 for the other bay counties, 14.0 and 13.3 for the adjoining coast counties of Central California, and 14.1 and 14.4 for Los Angeles in Southern California, these being the minor geographic divisions with rates above the State averages of 13.4 and 12.7.

Cities—Table 9 presents similar figures for freeholders' charter cities and for the rest of California. Birth-rates are shown for only twenty-three cities in 1909 and twenty-one in 1908 (instead of for twenty-six and twenty-four, respectively, as in other tables), because the population in 1910 had not been announced by the Federal Census Bureau for Grass Valley, Salinas, and Watsonville at the time this Biennial Report went to press, so that it was impossible to estimate the population of those three small cities by the same safe method used in the case of the other cities given in the table.

TABLE 9.—*Estimated Midyear Population, Births, and Birth-rate per 1,000 Population, for Individual Cities and Rest of State: 1909 and 1908.*

CITY.	Estimated Midyear Population.		Births.		Birth-rate per 1,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908
Northern California.						
CALIFORNIA	2,306,001	2,215,615	30,882	28,077	13.4	12.7
Freeholders' charter cities*	1,221,914	1,155,601	18,672	17,362	15.3	15.0
Eureka	11,483	11,025	245	245	21.3	22.2
Napa	5,650	5,473	103	76	18.2	13.9
Santa Rosa	7,725	7,609	136	131	17.6	17.2
Grass Valley†	----------	----------	70	58	------	------
Central California.						
San Francisco	410,969	403,462	6,630	6,058	16.1	15.0
Alameda	22,828	22,127	411	413	18.0	18.7
Berkeley	38,252	35,495	669	567	17.5	16.0
Oakland	143,503	135,076	2,024	1,826	14.1	13.5
Richmond	6,575	----------	36	--------	5.5	------
Salinas†	----------	----------	53	75	------	------
Palo Alto	4,258	----------	62	--------	14.6	------
San Jose	28,349	27,595	459	367	16.2	13.3
Santa Cruz	10,706	10,150	135	168	12.6	16.6
Watsonville†	----------	----------	111	91	------	------
Fresno	23,896	22,638	421	419	17.6	18.5
Sacramento	43,460	41,899	529	523	12.2	12.5
Stockton	22,792	22,210	281	262	12.3	11.8
Vallejo	11,069	10,728	186	183	16.8	17.1
Southern California.						
Los Angeles	301,824	279,878	4,548	4,399	15.1	15.7
Long Beach	16,562	14,986	223	188	13.5	12.5
Pasadena	28,594	26,449	409	436	14.3	16.5
Santa Monica	7,463	6,978	83	93	11.1	13.3
Riverside	14,632	13,899	250	225	17.1	16.2
San Bernardino	12,248	11,576	207	219	16.9	18.9
San Diego	37,824	35,609	467	423	12.3	11.9
Santa Barbara	11,252	10,739	158	141	14.0	13.1
Rest of State‡	1,084,087	1,060,014	12,210	10,715	11.3	10.1

*Figures are for 23 freeholders' charter cities in both 1909 and 1908.

†Included with "Rest of State," proper estimates not being available because of non-publication of 1910 Census population.

‡Includes figures for 3 chartered cities in both 1909 and 1908.

ADDITIONAL NOTE.—Population estimates furnished by the Federal Census Bureau agree with the estimates in the above table, varying by only 1 or 2 in a few cases, except for five cities (Berkeley, Oakland, Fresno, Los Angeles, and Pasadena), for which the estimates of the Census Bureau include corrections for territory annexed between 1900 and 1910. The following table gives revised figures for these five cities, together with changes made by the corrections in the totals for "Freeholders' charter cities" and for "Rest of State."

CITY.	Estimated Midyear Population.		Births.		Birth-rate per 1,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908.
Freeholders' charter cities	1,182,389	1,121,315	18,672	17,362	15.8	15.5
Central California.						
Berkeley	38,264	35,359	669	567	17.5	16.0
Oakland	115,908	110,519	2,024	1,826	17.5	16.5
Fresno	20,860	19,936	421	419	20.2	21.0
Southern California.						
Los Angeles	292,566	272,189	4,548	4,399	15.5	16.2
Pasadena	28,946	27,247	409	436	14.1	16.0
Rest of State	1,123,612	1,094,300	12,210	10.715	10.9	9.8

The birth-rate per 1,000 population is much higher for freeholders' charter cities as a class, 15.3 in 1909 and 15.0 in 1908, than for all the rest of California, only 11.3 and 10.1, respectively.

With corrections of population estimates to cover annexations of territory in five cities, the birth-rates for chartered cities in 1909 and 1908, respectively, are 15.8 and 15.5, as compared with only 10.9 and 9.8 for the rest of the State.

The birth-rates equaled or exceeded the city averages of 15.3 and 15.0 for 1909 and 1908, respectively, in the following cities: Eureka, 21.3 and 22.2; Alameda, 18.0 and 18.7; Fresno, 17.6 and 18.5; Santa Rosa, 17.6 and 17.2; Berkeley, 17.5 and 16.0; Riverside, 17.1 and 16.2; San Bernardino, 16.9 and 18.9; Vallejo, 16.8 and 17.1; San Francisco, 16.1 and 15.0; and Los Angeles, 15.1 and 15.7. The birth-rate was also above the city average for 1909 alone (15.3) for Napa, 18.2, and for San Jose, 16.2. Similarly, the birth-rate exceeded the city average only for 1908 (15.0) in Santa Cruz, 16.6, and Pasadena, 16.5

With population estimates corrected to allow for territory annexed, Oakland also shows for both 1909 and 1908 birth rates above the revised averages for chartered cities.

Counties.—The individual counties with birth-rates above the State averages of 13.4 and 12.7 in 1909 and 1908, respectively, were as follows: Santa Clara, 17.0 and 15.2; Lake, 16.7 and 14.2; San Francisco, 16.1 and 15.0; Fresno, 16.1 and 14.4; Kings, 15.5 and 13.9; Alameda, 15.4 and 14.8; Riverside, 15.1 and 14.0; Los Angeles, 14.1 and 14.4; San Mateo, 14.0 and 14.4; Nevada, 13.9 and 13.3; and Madera, 13.5 and 13.2. The birth-rate was above the general average only for 1909 (13.4) in the following counties: Sutter, 14.5; Shasta, 13.9; Colusa, 13.8; and Calaveras, 13.5. Similarly, the birth-rate was above the State average for 1908 alone (12.7) in the following counties: Alpine, 20.3; Siskiyou, 14.1; Santa Cruz, 13.1; and Marin, 12.9.

GENERAL BIRTH STATISTICS.

Sex.—The following table gives the clasification of births by sex, with per cents, for the several geographic divisions in both 1909 and 1908:

TABLE 10.—*Births classified by Sex, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Births.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	30,882	28,077	16,150	14,516	14,732	13,561	52.3	51.7	47.7	48.3
Northern California	3,155	2,698	1,648	1,381	1,507	1.317	52.2	51.2	47.8	48.8
Coast counties	1,336	1,151	687	580	649	571	51.4	50.4	48.6	49.6
Interior counties	1,819	1.547	961	801	858	746	52.8	51.8	47.2	48.2
Central California	18,209	16,351	9,509	8,384	8,700	7,967	52.2	51.3	47.8	48.7
San Francisco	6,630	6,058	3,449	3,067	3.181	2.991	52.0	50.6	48.0	49.4
Other bay counties	4,534	4,262	2,352	2,213	2,182	2,049	51.9	51.9	48.1	48.1
Coast counties	2,216	2,063	1,175	1,073	1,041	990	53.0	52.0	47.0	48.0
Interior counties	4,829	3,968	2,533	2,031	2,296	1,937	52.5	51.2	47.5	48.8
Southern California	9,518	9,028	4,993	4,751	4,525	4,277	52.5	52.6	47.5	47.4
Los Angeles	6,710	6,404	3,525	3,398	3,185	3,006	52.5	53.1	47.5	46.9
Other counties	2,808	2,624	1,468	1,353	1,340	1,271	52.3	51.6	47.7	48.4
Northern and Central California	21,364	19,049	11,157	9,765	10,207	9,284	52.2	51.3	47.8	48.7
Coast counties	14,716	13,534	7,663	6,933	7,053	6,601	52.1	51.2	47.9	48.8
Interior counties	6,648	5,515	3,494	2,832	3,154	2,683	52.6	51.4	47.4	48.6
Metropolitan area	11,164	10,320	5,801	5,280	5,363	5,040	52.0	51.2	48.0	48.8
Rural counties	10,200	8,729	5,356	4,485	4,844	4,244	52.5	51.4	47.5	48.6

The proportion of the sexes among the 30,882 children born in California in 1909 was: Male, 16,150, or 52.3 per cent; and female, 14,732, or 47.7 per cent. Among the 28,077 born in 1908, the proportion of the sexes was: Male, 14,516, or 51.7 per cent; and female, 13,561, or 48.3 per cent. For 1909, as compared with 1908, there was an increase of 0.6 in the per cent male, and, correspondingly, a decrease of 0.6 in the per cent female.

In 1909 the male births exceeded the female by 1,418, or 9.6 per cent, while in 1908 the excess of boys over girls was only 955, or 7.0 per cent. The male births exceeded the female in every main and minor geographic division in both 1909 and 1908. The per cent male was highest in 1909 for the coast counties of Central California, 53.0, and in 1908 for Los Angeles, 53.1. Each year the per cent was lowest for the coast counties of Northern California, 51.4 and 50.4 in 1909 and 1908, respectively.

The per cents male were higher for Los Angeles in 1909 and 1908 (52.5 and 53.1) than for the other counties of Southern California (52.3 and 51.6). However, the per cents male were lower for the metropolitan area each year (52.0 and 51.2) than for the rural counties north of Tehachapi (52.5 and 51.4).

The following table shows, for 1909 and 1908, the classification of births by sex, with per cent distributions, for the freeholders' charter cities in contrast with the rest of the State. There were twenty-six chartered cities in 1909 and twenty-four in 1908:

TABLE 11.—*Births classified by Sex, with Per Cents, for Cities and Rest of State: 1909 and 1908.*

POPULATION GROUP.	Births.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
CALIFORNIA	30,882	28,077	16,150	14,516	14,732	13,561	52.3	51.7	47.7	48.3
Freeholders' charter cities	18,906	17,586	9,867	9,089	9,039	8,497	52.2	51.7	47.8	48.3
Rest of State	11,976	10,491	6,283	5,427	5,693	5,064	52.5	51.7	47.5	48.3

This table shows that among the 18,906 births in freeholders' charter cities in 1909 the proportion of the sexes was: Male, 9,867, or 52.2 per cent; and female, 9,039, or 47.8 per cent. The proportion of the sexes among the 17,586 births in chartered cities in 1908 was: Male, 9,089, or 51.7 per cent; and female, 8,497, or 48.3 per cent. For cities as a class there was an increase of 0.5 in the per cent male, and, conversely, a decrease of 0.5 in the per cent female.

In California outside chartered cities there were 11,976 births in 1909, classified by sex, as follows: Male, 6,283, or 52.5 per cent; and female, 5,693, or 47.5 per cent. For the State outside cities, in 1908, the 10,491 births were distributed by sex, as follows: Male, 5,427, or 51.7 per cent; and female, 5,064, or 48.3 per cent. For the rural part of the State the per cent male showed an increase of 0.8 and the per cent female a decrease of 0.8, correspondingly.

In 1909 the per cent male was 52.2 for the chartered cities, against 52.5 for the rest of Calfornia, while in 1908 the per cent male was the same for cities as for rural districts (51.7).

Race.—The following table gives the classification of births by race, as well as the per cent white, for the several geographic divisions in 1909 and 1908:

TABLE 12.—*Births classified by Race, with Per Cent, White, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Births.						Per Cent White.
	Total.	White.	Negro.	Indian.	Chinese.	Japanese.	
1909.							
THE STATE	30,882	29,736	222	34	208	682	96.3
Northern California	3,155	3,092	3	20	11	29	98.0
Coast counties	1,336	1,314	-------	8	3	11	98.4
Interior counties	1,819	1,778	3	12	8	18	97.7
Central California	18,209	17,482	96	5	174	452	96.0
San Francisco	6,630	6,415	19	-------	89	107	96.8
Other bay counties	4,534	4,336	39	-------	46	113	95.6
Coast counties	2,216	2,132	4	-------	12	68	96.2
Interior counties	4,829	4,599	34	5	27	164	95.2
Southern California	9,518	9,162	123	9	23	201	96.3
Los Angeles	6,710	6,426	101	3	16	164	95.8
Other counties	2,808	2,736	22	6	7	37	97.5
Northern and Central California	21,364	20,574	99	25	185	481	96.3
Coast counties	14,716	14,197	62	8	150	299	96.5
Interior counties	6,648	6,377	37	17	35	182	95.9
Metropolitan area	11,164	10,751	58	-------	135	220	96.4
Rural counties	10,200	9,823	41	25	50	261	96.3
1908.							
THE STATE	28,077	27,190	186	19	227	455	96.8
Northern California	2,698	2,659	8	9	10	12	98.6
Coast counties	1,151	1,142	1	3	2	3	99.2
Interior counties	1,547	1,517	7	6	8	9	98.1
Central California	16,351	15,784	66	3	199	299	96.5
San Francisco	6,058	5,856	13	-------	98	91	96.7
Other bay counties	4,262	4,082	28	-------	54	98	95.8
Coast counties	2,063	2,007	4	-------	12	40	97.3
Interior counties	3,968	3,839	21	3	35	70	96.7
Southern California	9,028	8,747	112	7	18	144	96.9
Los Angeles	6,404	6,182	87	4	17	114	96.5
Other counties	2,624	2,565	25	3	1	30	97.8
Northern and Central California	19,049	18,443	74	12	209	311	96.8
Coast counties	13,534	13,087	46	3	166	232	96.7
Interior counties	5,515	5,356	28	9	43	79	97.1
Metropolitan area	10,320	9,938	41	-------	152	189	96.3
Rural counties	8,729	8,505	33	12	57	122	97.4

It appears from this table that the race distribution of the 30,882 births in California in 1909 was: White, 29,736, or 96.3 per cent; Japanese, 682; negro, 222; Chinese, 208; and Indian, 34. In 1908 the race distribution of the 28,077 births was: White, 27,190, or 96.8 per cent; Japanese, 455; Chinese, 227; negro, 186; and Indian, 19. There was a decrease of 0.5 in the per cent white, 96.3 in 1909 against 96.8 in 1908. Each year the Japanese were the leading non-Caucasians represented in births, the negroes being next in 1909 and the Chinese next in 1908.

In 1909 and 1908 the per cent white was highest in Northern California (98.0 and 98.6), next in Southern California (96.3 and 96.9), and lowest in Central California (96.0 and 96.5). Among the minor geographic divisions the per cent white ranged from 98.4 and 99.2 for the coast counties of Northern California in 1909 and 1908, respectively, to 95.6 and 95.8 for the bay counties other than San Francisco.

Each year the per cents white were less for Los Angeles (95.8 in 1909 and 96.5 in 1908) than for the other counties of Southern California (97.5 and 97.8). However, the per cents white were much greater for San Francisco than for the other bay counties, being 96.8 and 96.7 for the metropolis against 95.6 and 95.8 for the suburbs.

The following table gives the race distribution of births, with the per cent white, for the twenty-six chartered cities in 1909 and the twenty-four in 1908, in contrast with the rest of the State:

TABLE 13.—*Births classified by Race, with Per Cent White, for Cities and Rest of State: 1909 and 1908.*

POPULATION GROUP.	Births.						Per Cent White.
	Total.	White.	Negro.	Indian.	Chinese.	Japanese.	
1909.							
CALIFORNIA	30,882	29,736	222	34	208	682	96.3
Freeholders' charter cities	18,906	18,163	171	5	161	406	96.1
Rest of State	11,976	11,573	51	29	47	276	96.6
1908.							
CALIFORNIA	28,077	27,190	186	19	227	455	96.8
Freeholders' charter cities	17,586	16,949	143	5	185	304	96.4
Rest of State	10,491	10,241	43	14	42	151	97.6

This table shows that among the 18,906 births in chartered cities in 1909, the race distribution was: White, 18,163, or 96.1 per cent; Japanese, 406; negro, 171; Chinese, 161; and Indian, 5. The race distribution of the 17,586 births in cities in 1908 was: White, 16,949, or 96.4 per cent; Japanese, 304; Chinese, 185; negro, 143; and Indian, 5. There was a decrease of 0.3 in the per cent white, 96.1 in 1909 and 96.4 in 1908.

For the State, exclusive of chartered cities, there were 11,976 births in 1909 distributed by race as follows: White, 11,573, or 96.6 per cent; Japanese, 276; negro, 51; Chinese, 47; and Indian, 29. There were 10,491 births in California outside cities in 1908, distributed by race, as follows: White, 10,241, or 97.6 per cent; Japanese, 151; negro, 43; Chinese, 42; and Indian, 14. For the rural part of the State the per cent white showed a decrease of 1.0, being 96.6 for 1909 against 97.6 for 1908.

In 1909 the per cent white was less by 0.5 for cities than for rural districts (96.1 as compared with 96.6), while in 1908 the per cent white was less by 1.2 for the chartered cities than for the rest of California (96.4 against 97.6).

Sex and Race.—In the table below births of whites and non-Caucasians are classified by sex, with per cents, for both 1909 and 1908. There were so few births of non-Caucasians in some geographic divisions that figures are presented here only for the twenty-six chartered cities in 1909 and the twenty-four in 1908, as contrasted with the rest of the State.

TABLE 14.—*Births classified by Sex and Race, with Per Cents by Sex, for Cities and Rest of State: 1909 and 1908.*

POPULATION GROUP.	Births.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
WHITE.										
California	29,736	27,190	15,516	14,044	14,220	13,146	52.2	51.7	47.8	48.3
Freeholders' charter cities	18,163	16,949	9,470	8,767	8,693	8,182	52.1	51.7	47.9	48.3
Rest of State	11,573	10,241	6,046	5,277	5,527	4,964	52.2	51.5	47.8	48.5
NON-CAUCASIAN.										
California	1,146	887	634	472	512	415	55.3	53.2	44.7	46.8
Freeholders' charter cities	743	637	397	322	346	315	53.4	50.5	46.6	49.5
Rest of State	403	250	237	150	166	100	58.8	60.0	41.2	40.0

This table shows that, in general, the preponderance of males was much greater among the few non-Caucasian births than among the many white births. Thus, in 1909 and 1908, respectively, the per cents male were 55.3 and 53.2 for non-Caucasians against 52.2 and 51.7 for whites in the State as a whole; 53.4 and 50.5 for non-Caucasians against 52.1 and 51.7 for whites in chartered cities as a class; and no less than 58.8 and 60.0 for non-Caucasians against 52.2 and 51.5 for all the rest of California.

Nativity of White Mothers.—The analysis of births by race may be extended to a consideration of births according to the nativity of white mothers—classified as born in California, born in other states, or foreign born. The cases where the nativity of the white mothers could not be determined from the birth certificates totaled only 88, or 0.3 per cent, in 1909 and only 146, or 0.5 per cent, in 1908. These few have been included with the mothers born in other states than California, because it seems less likely that the nativity would be unknown or not given for mothers born in this State or in foreign countries than for mothers born somewhere or other in the United States.

The following table shows the nativity of white mothers, by numbers and per cents, for the several geographic divisions in both 1909 and 1908:

TABLE 15.—*White Mothers classified by Nativity, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	White Mothers.				Per Cent.		
	Total	Born in California.	Born in Other States.*	Foreign Born.	Born in California.	Born in Other States.	Foreign Born.
1909.							
THE STATE	29,736	10,544	10,700	8,492	35.5	36.0	28.5
Northern California	3,092	1,673	880	539	54.1	28.5	17.4
Coast counties	1,314	673	327	314	51.2	24.9	23.9
Interior counties	1,778	1,000	553	225	56.2	31.1	12.7
Central California	17,482	7,286	4,504	5,692	41.7	25.8	32.5
San Francisco	6,415	2,675	1,069	2,671	41.7	16.7	41.6
Other bay counties	4,336	1,790	1,126	1,420	41.3	26.0	32.7
Coast counties	2,132	926	625	581	43.4	29.3	27.3
Interior counties	4,599	1,895	1,684	1,020	41.2	36.6	22.2
Southern California	9,162	1,585	5,316	2,261	17.3	58.0	24.7
Los Angeles	6,426	960	3,740	1,726	14.9	58.2	26.9
Other counties	2,736	625	1,576	535	22.8	57.6	19.6
Northern and Central California	20,574	8,959	5,384	6,231	43.5	26.2	30.3
Coast counties	14,197	6,064	3,147	4,986	42.7	22.2	35.1
Interior counties	6,377	2,895	2,237	1,245	45.4	35.1	19.5
Metropolitan area	10,751	4,465	2,195	4,091	41.5	20.4	38.1
Rural counties	9,823	4,494	3,189	2,140	45.7	32.5	21.8
1908.							
THE STATE	27,190	9,469	10,099	7,622	34.8	37.2	28.0
Northern California	2,659	1,371	816	472	51.6	30.7	17.7
Coast counties	1,142	547	312	283	47.9	27.3	24.8
Interior counties	1,517	824	504	189	54.3	33.2	12.5
Central California	15,784	6,440	4,122	5,222	40.8	26.1	33.1
San Francisco	5,856	2,323	1,083	2,450	39.7	18.5	41.8
Other bay counties	4,082	1,639	1,131	1,312	40.2	27.7	32.1
Coast counties	2,007	922	539	546	45.9	26.9	27.2
Interior counties	3,839	1,556	1,369	914	40.5	35.7	23.8
Southern California	8,747	1,658	5,161	1,928	19.0	59.0	22.0
Los Angeles	6,182	1,031	3,667	1,484	16.7	59.3	24.0
Other counties	2,565	627	1,494	444	24.4	58.3	17.3
Northern and Central California	18,443	7,811	4,938	5,694	42.3	26.8	30.9
Coast counties	13,087	5,431	3,065	4,591	41.5	23.4	35.1
Interior counties	5,356	2,380	1,873	1,103	44.4	35.0	20.6
Metropolitan area	9,938	3,962	2,214	3,762	39.9	22.3	37.8
Rural counties	8,505	3,849	2,724	1,932	45.3	32.0	22.7

*Includes those of unknown nativity, numbering in the entire State only 88, or 0.3 per cent, in 1909 and 146, or 0.5 per cent, in 1908.

It appears from this table that of the mothers of the 29,736 white children born in California in 1909, 10,700, or 36.0 per cent, were themselves born in other states; 10,544, or 35.5 per cent, were born in this State; and 8,492, or 28.5 per cent, were born in foreign countries. Of the 27,190 white mothers bearing children in 1908, those born elsewhere in the United States were 10,099, or 37.2 per cent; those born in California were 9,469, or 34.8 per cent; and those born abroad were

7,622, or 28.0 per cent. There was an increase of 0.7 in the per cent of white mothers born in California (35.5 in 1909 against 34.8 in 1908) and an increase of 0.5 in the per cent born abroad (28.5 against 28.0). On the other hand, there was a decrease of 1.2 in the per cent of white mothers born in other states (36.0 against 37.2).

The proportion of white mothers born in other states is very high for Southern California, but is quite low for Northern and Central California, especially the latter. The per cents born elsewhere in the United States were 58.0 and 59.0 for the counties south of Tehachapi in 1909 and 1908 as compared with 26.2 and 26.8 for those to the north, being 28.5 and 30.7 for Northern California and only 25.8 and 26.1 for Central California. The per cents were 58.2 and 59.3 for Los Angeles against 57.6 and 58.3 for the rest of Southern California. However, the per cents were only 20.4 and 22.3 for the metropolitan area as compared with 32.5 and 32.0 for the rural counties north of Tehachapi, and were merely 16.7 and 18.5 for San Francisco against 26.0 and 27.7 for the other bay counties.

The proportion of mothers who were themselves native daughters is very high for both Northern and Central California but very low for Southern California. The per cents of mothers born in the Golden State in 1909 and 1908, respectively, were 54.1 and 51.6 for Northern California, and 41.7 and 40.8 for Central California, or 43.5 and 42.3 for both together, as compared with merely 17.3 and 19.0 for the counties south of Tehachapi. The per cents were as little as 14.9 and 16.7 for Los Angeles against 22.8 and 24.4 for the other counties of Southern California. The per cents were likewise less for the metropolitan area than for the rural counties north of Tehachapi, being 41.5 and 39.9 for the former against 45.7 and 45.3 for the latter. The per cents born in California were not far from the same for San Francisco and the other bay counties, being 41.7 and 41.3 in 1909 and 39.7 and 40.2, respectively, in 1908.

The proportion of foreign born mothers of the white race is notably high only for Central California, especially in San Francisco and the other bay counties. The per cents born abroad in 1909 and 1908, respectively, were 32.5 and 33.1 for Central California as compared with merely 24.7 and 22.0 for Southern California, and 17.4 and 17.7 for Northern California. The per cents for the counties north of Tehachapi were 30.3 and 30.9, being no less than 38.1 and 37.8 for the metropolitan area against only 21.8 and 22.7 for the rural counties. The per cents born abroad were as great as 41.6 and 41.8 among mothers in the metropolis proper as compared with 32.7 and 32.1 for those in the suburban counties.

The table below gives numbers and per cents, showing the nativity of white mothers for the twenty-six chartered cities in 1909 and the twenty-four in 1908, as compared with all the rest of California:

TABLE 16.—*White Mothers classified by Nativity, with Per Cents, for Cities and Rest of State: 1909 and 1908.*

POPULATION GROUP.	White Mothers				Per Cent.		
	Total.	Born in California.	Born in Other States.*	Foreign Born.	Born in California.	Born in Other States.	Foreign Born.
1909.							
CALIFORNIA	29,736	10,544	10,700	8,492	35.5	36.0	28.5
Freeholders' charter cities	18,163	6,063	6,196	5,904	33.4	34.1	32.5
Rest of state	11,573	4,481	4,504	2,588	38.7	38.9	22.4
1908.							
CALIFORNIA	27,190	9,469	10,099	7,622	34.8	37.2	28.0
Freeholders' charter cities	16,949	5,500	6,131	5,318	32.4	36.2	31.4
Rest of state	10,241	3,969	3,968	2,304	38.8	38.7	22.5

*Includes those of unknown nativity, numbering in the entire State only 88, or 0.3 per cent, in 1909 and 146, or 0.5 per cent, in 1908.

This table shows that of the 18,163 mothers of white children born in freeholders' charter cities in 1909, 6,196, or 34.1 per cent, were natives of other states; 6,063, or 33.4 per cent, were natives of California; and 5,904, or 32.5 per cent, were natives of foreign countries. Of the 16,949 white mothers bearing children in chartered cities in 1908, those born elsewhere in the United States were 6,131, or 36.2 per cent; those born in California were 5,500, or 32.4 per cent; and those born abroad were 5,318, or 31.4 per cent. There was an increase of 1.0 in the per cent of white mothers, in cities, born in California (33.4 in 1909 against 32.4 in 1908), and there was also an increase of 1.1 in the per cent born abroad (32.5 against 31.4). On the other hand there was a decrease of 2.1 in the per cent of mothers, in cities, born in other states (34.1 against 36.2).

In the State outside cities there were 11,573 births of white children in 1909, with mothers born as follows: Other states, 4,504, or 38.9 per cent; California, 4,481, or 38.7 per cent; foreign countries, 2,588, or 22.4 per cent. In 1908 there were 10,241 white children born in the rural part of the State, with maternal nativity as follows: California, 3,969, or 38.8 per cent; other states, 3,968, or 38.7 per cent; and foreign, 2,304, or 22.5 per cent. The per cent distribution of white mothers by nativity was substantially the same for rural districts in both 1909 and 1908, corresponding per cents differing by only 0.2 or 0.1.

The per cents American born, whether in California or other states, were less each year for chartered cities than for rural districts, while the per cent foreign born was much greater within cities than outside them. The excess in the per cent of mothers born in this State for rural districts over that for cities was 5.3 in 1909 (38.7 against 33.4), and 6.4 in 1908 (38.8 against 32.4). Similarly, the excess in the per cent born elsewhere in the United States for the rural over the urban districts was 4.8 in 1909 (38.9 against 34.1), and 2.5 in 1908 (38.7

against 36.2). On the other hand, the excess in the per cent born abroad among white mothers in cities over that among mothers in the country districts was no less than 10.1 in 1909 (32.5 against 22.4), and 8.9 in 1908 (31.4 against 22.5).

As in the State as a whole; so in the cities reporting the bulk of all births, the mothers born in other states outnumbered each year those born in California, with foreign born mothers a close third in cities. In the territory outside cities, however, the totals were not far from the same for Californian as for other American mothers, each surpassing the foreign born greatly.

Sex and Nativity of White Mothers.—In the study of sex and race, *ante*, it was found that the preponderance of male births was much greater among non-Caucasians than among whites. The following table has been prepared to show the proportion of the sexes among children born to white mothers classified by nativity. Only the per cent distribution, by sex, is given here, but the absolute figures are presented in Table 27, page 74:

TABLE 17.—*Per Cent Distribution, by Sex, of White Children with Mothers classified by Nativity, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	White Children.											
	Per Cent Male Among Those With Mothers—						Per Cent Female Among Those With Mothers—					
	Born in California.		Born in Other States.		Foreign Born.		Born in California.		Born in Other States.		Foreign Born.	
	1909	1908.	1909.	1908	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	51.8	50.9	52.1	52.6	52.8	51.3	48.2	49.1	47.9	47.4	47.2	48.7
Northern California	51.1	51.2	52.8	52.6	53.6	48.3	48.9	48.8	47.2	47.4	46.4	51.7
Coast counties	48.9	52.8	54.7	50.6	53.5	46.3	51.1	47.2	45.3	49.4	46.5	53.7
Interior counties	52.6	50.1	51.7	53.8	53.8	51.3	47.4	49.9	48.3	46.2	46.2	48.7
Central California	51.8	50.7	51.9	51.6	52.4	51.5	48.2	49.3	48.1	48.4	47.6	48.5
San Francisco	52.7	49.7	50.3	52.3	51.7	50.6	47.3	50.3	49.7	47.7	48.3	49.4
Other bay counties	50.8	51.3	51.6	53.1	53.2	52.3	49.2	48.7	48.4	46.9	46.8	47.7
Coast counties	51.8	51.7	53.0	50.1	53.9	54.0	48.2	48.3	47.0	49.9	46.1	46.0
Interior counties	51.5	51.0	52.6	50.3	52.2	51.2	48.5	49.0	47.4	49.7	47.8	48.8
Southern California	52.6	51.1	52.1	53.5	53.5	51.4	47.4	48.9	47.9	46.5	46.5	48.6
Los Angeles	53.5	51.6	51.7	54.2	54.1	51.5	46.5	48.4	48.3	45.8	45.9	48.5
Other counties	51.0	50.4	53.1	51.7	51.4	51.1	49.0	49.6	46.9	48.3	48.6	48.9
Northern and Central California	51.7	50.8	52.0	51.7	52.5	51.2	48.3	49.2	48.0	48.3	47.5	48.8
Coast counties	51.6	50.8	51.8	52.0	52.5	51.2	48.4	49.2	48.2	48.0	47.5	48.8
Interior counties	51.9	50.7	52.4	51.3	52.4	51.2	48.1	49.3	47.6	48.7	47.6	48.8
Metropolitan area	51.9	50.4	51.0	52.7	52.2	51.2	48.1	49.6	49.0	47.3	47.8	48.8
Rural counties	51.4	51.3	52.7	51.0	53.0	51.3	48.6	48.7	47.3	49.0	47.0	48.7

The per cent of male births in California in 1909 was 52.8 for foreign born mothers, 52.1 for those born in other states, and 51.8 for those born in this State, while in 1908 the per cent male was 52.6 for mothers born in other states, 51.3 for those born abroad, and only 50.9 for those born in California. Each year the per cent male was lower among children of Californian mothers than among those of other American or foreign born mothers, the proportion of male births being greatest for the foreign born in 1909 but for other Americans in 1908.

Differences like those here noticed between the per cents for the State in 1909 and 1908 occur also among the per cents for the several geographic divisions each year, so that it is impossible to draw general conclusions from these figures about the effect of maternal nativity on the preponderance of male births.

The following table presents similar figures for freeholders' charter cities in contrast with the rest of California. The numbers on which the per cents were based appear in Table 28, page 77:

TABLE 18.—*Per Cent Distribution, by Sex, of White Children with Mothers classified by Nativity, for Cities and Rest of State: 1909 and 1908.*

POPULATION GROUP.	White Children.											
	Per Cent Male Among Those With Mothers—						Per Cent Female Among Those With Mothers—					
	Born in California.		Born in Other States.		Foreign Born.		Born in California.		Born in Other States.		Foreign Born.	
	1909.	1908.	1909.	1908.	1609.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
CALIFORNIA	51.8	50.9	52.1	52.6	52.8	51.3	48.2	49.1	47.9	47.4	47.2	48.7
Freeholders' charter cities	52.2	51.0	52.0	52.9	52.2	51.0	47.8	49.0	48.0	47.1	47.8	49.0
Rest of State	51.3	50.6	52.2	52.2	54.0	52.0	48.7	49.4	47.8	47.8	46.0	48.0

In chartered cities the per cent of male births was 52.2 in 1909 and 51.0 in 1908 for both Californian and foreign born mothers, as compared with 52.0 and 52.9 for other American mothers. That is, in cities where the three elements of the population are about equally represented, the preponderance of males was much the same for each class in 1909 though by far greatest in 1908 for mothers born in other states than California.

In rural districts, where the foreign born element is least numerous, the per cent male was 54.0 in 1909 and 52.0 in 1908 among children of foreign born mothers; 52.2 each year among children of mothers born in other states; and only 51.3 in 1909 and 50.6 in 1908 among children of mothers who were themselves natives of this State. The Californian and other American mothers are equally represented in the rural districts, and here the preponderance of male births was much greater each year for mothers born in other states than for those born in California.

NATIVITY OF BRIDES AND MOTHERS.

Nativity of White Brides and Mothers.—Some facts of interest are disclosed by a comparison of the nativity of white brides and mothers in California. Accordingly, the following table is presented giving, for the several geographic divisions in 1909 and 1908, the per cent distribution of white brides and white mothers by nativity:

TABLE 19.—*Per Cent Distribution, by Nativity, of White Brides and White Mothers, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Per Cent Born in California.		Per Cent Born in Other States.		Per Cent Foreign Born.	
	White Brides.	White Mothers.	White Brides.	White Mothers.	White Brides.	White Mothers.
1909.						
THE STATE	40.7	35.5	40.3	36.0	19.0	28.5
Northern California	59.7	54.1	29.1	28.5	11.2	17.4
Coast counties	57.7	51.2	25.5	24.9	16.8	23.9
Interior counties	61.5	56.2	32.3	31.1	6.2	12.7
Central California	48.4	41.7	28.9	25.8	22.7	32.5
San Francisco	46.1	41.7	22.6	16.7	31.3	41.6
Other bay counties	49.7	41.3	29.9	26.0	20.4	32.7
Coast counties	53.7	43.4	27.9	29.3	18.4	27.3
Interior counties	47.2	41.2	35.6	36.6	17.2	22.2
Southern California	22.1	17.3	63.1	58.0	14.8	24.7
Los Angeles	20.2	14.9	64.1	58.2	15.7	26.9
Other counties	25.6	22.8	61.2	57.6	13.2	19.6
Northern and Central California	49.9	43.5	28.9	26.2	21.2	30.3
Coast counties	49.7	42.7	26.3	22.2	24.0	35.1
Interior counties	50.6	45.4	34.8	35.1	14.6	19.5
Metropolitan area	47.8	41.5	26.1	20.4	26.1	38.1
Rural counties	52.3	45.7	32.0	32.5	15.7	21.8
1908.						
THE STATE	40.5	34.8	39.2	37.2	20.3	28.0
Northern California	58.3	51.6	28.6	30.7	13.1	17.7
Coast counties	56.6	47.9	24.5	27.3	18.9	24.8
Interior counties	60.0	54.3	32.8	33.2	7.2	12.5
Central California	48.3	40.8	28.3	26.1	23.4	33.1
San Francisco	45.7	39.7	22.0	18.5	32.3	41.8
Other bay counties	47.7	40.2	30.1	27.7	22.2	32.1
Coast counties	54.7	45.9	27.4	26.9	17.9	27.2
Interior counties	48.7	40.5	34.3	35.7	17.0	23.8
Southern California	20.3	19.0	63.1	59.0	16.6	22.0
Los Angeles	17.9	16.7	64.6	59.3	17.5	24.0
Other counties	24.7	24.4	60.2	58.3	15.1	17.3
Northern and Central California	49.6	42.3	28.4	26.8	22.0	30.9
Coast counties	48.9	41.5	26.0	23.4	25.1	35.1
Interior counties	51.3	44.4	33.9	35.0	14.8	20.6
Metropolitan area	46.7	39.9	25.9	22.3	27.4	37.8
Rural counties	52.8	45.3	31.1	32.0	16.1	22.7

It appears from this table that the per cents of white brides born in California in 1909 and 1908 were 40.7 and 40.5, but that the per cents of native daughters among white mothers were only 35.5 and 34.8, respectively. The excess in the per cent born in California among brides over that among mothers was 5.2 in 1909 (40.7 against 35.5) and 5.7 in 1908 (40.5 against 34.8). In every main and minor geographic division in both 1909 and 1908 a larger per cent of white brides than of white mothers were natives of this State.

The per cents of white brides born in other states were 40.3 and 39.2 in 1909 and 1908, while the per cents born elsewhere in the United States were somewhat less among white mothers, 36.0 and 37.2, respectively. The excess in the per cent born in other states for brides over that for mothers was 4.3 in 1909 (40.3 against 36.0) and 2.0 in 1908 (39.2 against 37.2). For the coast counties of Central California in 1909 alone, for the interior counties of Central California in both 1909 and 1908, and for the coast and interior counties of Northern California in 1908 alone, the per cents born elsewhere in the United States were greater among white mothers than among white brides. For the remaining geographic divisions, however, a larger per cent of the white brides than of the white mothers in California were born in other states.

The per cents foreign born in 1909 and 1908 were only 19.0 and 20.3 among white brides against no less than 28.5 and 28.0 among white mothers. The per cent born abroad among mothers exceeded that among brides by 9.5 in 1909 (28.5 against 19.0) and by 7.7 in 1908 (28.0 against 20.3). In every geographic division each year a much larger per cent of the white mothers than of the white brides were foreign born.

The following table shows, for the several geographic divisions in 1909 and 1908, the results of comparing the per cent distribution, by nativity, of white brides and mothers:

TABLE 20.—*Comparison of Per Cent Distribution, by Nativity, of White Brides and White Mothers, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Excess in Per Cent Born in California for White *Brides* Over that for White *Mothers*.		Excess in Per Cent Born in Other States for White *Brides* Over that for White *Mothers*.		Excess in Per Cent Foreign Born for White *Mothers* Over that for White *Brides*.	
	1909.	1908.	1909.	1908	1909.	1908.
THE STATE	5.2	5.7	4.3	2.0	9.5	7.7
Northern California	5.6	6.7	0.6	—2.1	6.2	4.6
Coast counties	6.5	8.7	0.6	—2.8	7.1	5.9
Interior counties	5.3	5.7	1.2	—0.4	6.5	5.3
Central California	6.7	7.5	3.1	2.2	9.8	9.7
San Francisco	4.4	6.0	5.9	3.5	10.3	9.5
Other bay counties	8.4	7.5	3.9	2.4	12.3	9.9
Coast counties	10.3	8.8	—1.4	0.5	8.9	9.3
Interior counties	6.0	8.2	—1.0	—1.4	5.0	6.8
Southern California	4.8	1.3	5.1	4.1	9.9	5.4
Los Angeles	5.3	1.2	5.9	5.3	11.2	6.5
Other counties	2.8	0.3	3.6	1.9	6.4	2.2
Northern and Central California	6.4	7.3	2.7	1.6	9.1	8.9
Coast counties	7.0	7.4	4.1	2.6	11.1	10.0
Interior counties	5.2	6.9	—0.3	—1.1	4.9	5.8
Metropolitan area	6.3	6.8	5.7	3.6	12.0	10.4
Rural counties	6.6	7.5	—0.5	—0.9	6.1	6.6

The per cents born in California were considerably greater each year among brides than among mothers, and the per cents born in other states were likewise greater, though in less degree, among brides than among mothers. On the other hand, the per cents foreign born were much greater each year for white mothers than for white brides.

The excess in the per cent born in California for brides over that for mothers was much greater for the counties north of Tehachapi, 6.4 in 1909 and 7.3 in 1908, than for those to the south, 4.8 and 1.3, respectively. However, the proportion of native daughters among both brides and mothers is much greater anyway in Northern and Central California than in Southern California. The excess in the per cents for brides over those for mothers was somewhat less for the metropolitan area (6.3 in 1909 and 6.8 in 1908) than for the rural counties north of Tehachapi (6.6 and 7.5, respectively). The excess was likewise less for the metropolis proper (4.4 and 6.0) than for the suburban counties (8.4 and 7.5).

The excess in the per cent born in other states for brides over that for mothers was considerably greater for the counties south of Tehachapi (5.1 in 1909 and 4.1 in 1908) than for those to the north (2.7 and 1.6, respectively). It must be remembered, however, that the proportion of both brides and mothers born in other states is particularly great for Southern California, but relatively small for Northern as well as Central California. In the metropolitan area a much larger proportion of the brides than of the mothers were born elsewhere in the United States, the excess in the per cent for brides being 5.7 for 1909 and 3.6 for 1908; in the rural counties north of Tehachapi, on the contrary, a slightly greater proportion of the mothers than of the brides were born in other states, the excess in the per cents for mothers being 0.5 and 0.9 for 1909 and 1908, respectively. The excess in the per cent born in other states among brides over that among mothers was considerably greater for San Francisco (5.9 and 3.5) than for the other bay counties (3.9 and 2.4).

The marked excess in the per cent foreign born among mothers over that among brides was greatest, generally speaking, in Central California (9.8 in 1909 and 9.7 in 1908); next in Southern California (9.9 and 5.4); and least in Northern California (6.2 and 4.6). It is in these geographic divisions that the proportions foreign born among both mothers and brides are likewise greatest in the same order as here stated for the excess of foreign mothers over foreign brides. For Northern and Central California together the excess in the per cent of foreign born mothers over that of foreign born brides was 9.1 in 1909 and 8.9 in 1908. In the metropolitan area, where the foreign born element mainly abounds, the excess in the per cent of foreign born mothers over that of foreign born brides was as great as 12.0 in 1909 and 10.4 in 1908 as compared with only 6.1 and 6.6, respectively, for the rural counties north of Tehachapi. However, though San Francisco has a much larger proportion of foreign born inhabitants than the other bay counties, yet the excess in the per cent of foreign born mothers over that of foreign brides was somewhat greater for the suburbs (12.3 and 9.9) than for the metropolis (10.3 and 9.5).

Nativity of Single White Brides and White Mothers.—Since the marriages in which the brides were single are more apt to be blessed with children than those in which the brides were widowed or divorced, it may be even more instructive to compare the nativity of white mothers, not merely with that of all white brides, but rather with the nativity of the single white brides alone. The following table has, therefore, been prepared to show, for the several geographic divisions in 1909 and 1908, the per cent distribution, by nativity, of single white brides and white mothers:

TABLE 21.—*Per Cent Distribution, by Nativity, of Single White Brides and White Mothers, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Per Cent Born in California.		Per Cent Born in Other States.		Per Cent Foreign Born.	
	Single White Brides.	White Mothers.	Single White Brides.	White Mothers.	Single White Brides.	White Mothers.
1909.						
THE STATE	43.3	35.5	37.8	36.0	18.9	28.5
Northern California	64.3	54.1	24.8	28.5	10.9	17.4
Coast counties	61.6	51.2	21.4	24.9	17.0	23.9
Interior counties	66.8	56.2	28.1	31.1	5.1	12.7
Central California	50.8	41.7	26.6	25.8	22.6	32.5
San Francisco	48.3	41.7	20.0	16.7	31.7	41.6
Other bay counties	52.5	41.3	27.6	26.0	19.9	32.7
Coast counties	56.5	43.4	26.3	29.3	17.2	27.3
Interior counties	49.4	41.2	33.7	36.6	16.9	22.2
Southern California	24.2	17.3	61.2	58.0	14.6	24.7
Los Angeles	21.7	14.9	62.8	58.2	15.5	26.9
Other counties	28.8	22.8	58.3	57.6	12.9	19.6
Northern and Central California	52.6	43.5	26.4	26.2	21.0	30.3
Coast counties	52.3	42.7	23.8	22.2	23.9	35.1
Interior counties	53.3	45.4	32.5	35.1	14.2	19.5
Metropolitan area	50.2	41.5	23.6	20.4	26.2	38.1
Rural counties	55.2	45.7	29.5	32.5	15.3	21.8
1908.						
THE STATE	43.5	34.8	36.5	37.2	20.0	28.0
Northern California	62.4	51.6	25.5	30.7	12.1	17.7
Coast counties	59.9	47.9	22.7	27.3	17.4	24.8
Interior counties	65.0	54.3	28.5	33.2	6.5	12.5
Central California	51.0	40.8	25.9	26.1	23.1	33.1
San Francisco	47.7	39.7	20.2	18.5	32.1	41.8
Other bay counties	51.1	40.2	27.5	27.7	21.4	32.1
Coast counties	58.0	45.9	24.9	26.9	17.1	27.2
Interior counties	51.5	40.5	31.5	35.7	17.0	23.8
Southern California	23.0	19.0	60.8	59.0	16.2	22.0
Los Angeles	20.0	16.7	62.7	69.3	17.3	24.0
Other counties	28.7	24.4	57.2	58.3	14.1	17.3
Northern and Central California	52.6	42.3	25.8	26.8	21.6	30.9
Coast counties	51.7	41.5	23.7	23.4	24.6	35.1
Interior counties	54.6	44.4	30.8	35.0	14.6	20.6
Metropolitan area	49.3	39.9	23.6	22.3	27.1	37.8
Rual counties	56.2	45.3	28.2	32.0	15.6	22.7

When the contrast is drawn between the nativity of single white brides and of white mothers, the excess heretofore noted in the per cents foreign born among mothers over brides is found also in the per cents for mothers over the single brides alone. However, while the per cents born in other states were somewhat greater for all brides than for mothers in both 1909 and 1908, the per cents born elsewhere in the United States were greater for single white brides than for white mothers only in 1909, being greater for mothers than for single brides in 1908. The excess in the per cent born in California among brides as compared with mothers becomes even greater when the widowed and divorced brides are eliminated and only the single brides are considered.

The table shows that the per cent of single white brides born in California was no less than 43.3 in 1909 and 43.5 in 1908, while the corresponding per cents for white mothers were only 35.5 and 34.8, respectively. The excess in the per cent of native daughters among single white brides over that among mothers was 7.8 in 1909 (43.3 as compared with 35.5) and was 8.7 in 1908 (43.5 as compared with 34.8). In all parts of the State both years a considerably larger proportion of the single white brides than of the mothers were born in California.

The per cent of single white brides born in other states was 37.8 in 1909 as compared with 36.0 for white mothers, an excess of 1.8 in the per cent for brides. In 1908, on the other hand, the per cent born elsewhere in the United States was only 36.5 for single white brides, against 37.2 for white mothers, an excess of 0.7 in the per cent for mothers. The excess in the per cent of single white brides born in other states over that for white mothers observed for 1909 was confined, however, to San Francisco and the other bay counties and to Los Angeles and the other counties south of Tehachapi, while in 1908 there was a similar excess in the per cent for single brides over that for mothers merely for San Francisco and Los Angeles alone. In most of the geographic divisions, therefore, especially for 1908, the per cents born elsewhere in the United States were somewhat greater among mothers than among single brides.

The per cents foreign born in 1909 and 1908 were only 18.9 and 20.0 among single white brides, in contrast with no less than 28.5 and 28.0 among white mothers. The per cent born abroad for mothers surpassed that for single brides by 9.6 in 1909 (28.5 against 18.9) and by 8.0 in 1908 (28.0 against 20.0). In every geographic division each year the per cent foreign born was decidedly higher for white mothers than for single white brides.

The following table gives a measure of the contrast between the per cent distribution, by nativity, of single white brides and white mothers for the several geographic divisions in 1909 and 1908:

TABLE 22.—*Comparison of Per Cent Distribution, by Nativity, of Single White Brides and White Mothers, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Excess in Per Cent Born in California for Single White *Brides* Over that for White *Mothers*.		Excess in Per Cent Born in Other States for Single White *Brides* Over that for White *Mothers*.		Excess in Per Cent Foreign Born for White *Mothers* Over that for Single White *Brides*.	
	1909.	1908.	1909	1908.	1909.	1908.
THE STATE	7.8	8.7	1.8	—0.7	9.6	8.0
Northern California	10.2	10.8	—3.7	—5.2	6.5	5.6
Coast counties	10.4	12.0	—3.5	—4.6	6.9	7.4
Interior counties	10.6	10.7	—3.0	—4.7	7.6	6.0
Central California	9.1	10.2	0.8	—0.2	9.9	10.0
San Francisco	6.6	8.0	3.3	1.7	9.9	9.7
Other bay counties	11.2	10.9	1.6	—0.2	12.8	10.7
Coast counties	13.1	12.1	—3.0	—2.0	10.1	10.1
Interior counties	8.2	11.0	—2.9	—4.2	5.3	6.8
Southern California	6.9	4.0	3.2	1.8	10.1	5.8
Los Angeles	6.8	3.3	4.6	3.4	11.4	6.7
Other counties	6.0	4.3	0.7	—1.1	6.7	3.2
Northern and Central California	9.1	10.3	0.2	—1.0	9.3	9.3
Coast counties	9.6	10.2	1.6	0.3	11.2	10.5
Interior counties	7.9	10.2	—2.6	—4.2	5.3	6.0
Metropolitan area	8.7	9.4	3.2	1.3	11.9	10.7
Rural counties	9.5	10.9	—3.0	—3.8	6.5	7.1

The single white brides surpassed the white mothers in the per cent born in California for both 1909 and 1908 and in the per cent born in other states for 1909 alone, while the mothers surpassed the single brides in the per cent born in other states for 1908 and in the per cent foreign born for 1909 as well as 1908. Generally speaking, there was a marked excess in the per cent born in California among single brides over that among mothers; relatively little difference in the per cents born elsewhere in the United States for single brides and mothers; and a very great excess in the per cent born abroad among mothers over that for single brides.

The excess in the per cent born in California among single brides over that among mothers was much greater for Northern and Central California, 9.1 in 1909 and 10.3 in 1908, than for Southern California, 6.9 and 4.0, respectively. In all cases, however, the proportions born in the Golden State are much greater for the counties north of Tehachapi than for those to the south. The excess in the per cents born in California for single brides over those for mothers was somewhat less for the metropolitan area (8.7 in 1909 and 9.4 in 1908) than for the rural counties north of Tehachapi (9.5 and 10.9), and was likewise less for San Francisco (6.6 and 8.0) than for the other bay counties (11.2 and 10.9).

The small excess in the per cent born in other states among single brides over that among mothers shown for 1909 was limited to San Francisco and the other bay counties and to Los Angeles and the rest of Southern California. However, the slight excess in the per cent born elsewhere in the United States among mothers over that among single brides, found in the average per cents for the whole State in 1908, was the resultant of an excess in the per cents for mothers quite general throughout California and of a contrary excess in the per cents for brides in two populous geographic divisions, San Francisco and Los

Angeles. For both 1909 and 1908 there was an excess in the per cent born in other states among single brides over that among mothers only for Southern California (3.2 and 1.8), particularly Los Angeles (4.6 and 3.4), and for the metropolitan area of Northern and Central California (3.2 and 1.3), especially San Francisco (3.3 and 1.7). For the rural counties north of Tehachapi there was a great excess in the per cents born elsewhere in the United States among mothers over the per cents among single brides (3.0 in 1909 and 3.8 in 1908).

The decided excess in the per cent foreign born among mothers over that among single brides was greatest, generally speaking, in Central California (9.9 and 10.0); next in Southern California (10.1 and 5.8); and least in Northern California (6.5 and 5.6). It is in Central, Southern, and Northern California, in the order stated for the excess of mothers, that the per cents foreign born are likewise greatest among both mothers and brides. For Northern and Central California the per cent born abroad among mothers exceeded that among brides by the same amount, 9.3, each year, 1909 and 1908. In the metropolitan area, where the foreign born element is especially prominent, the excess in the per cent foreign born for mothers over that for single brides was as great as 11.9 in 1909 and 10.7 in 1908, as compared with 6.5 and 7.1 for the rural counties north of Tehachapi. But for San Francisco, where the foreign born population is more massed than in the suburbs, the excess in the per cent born abroad among mothers over that among single brides was only 9.9 in 1909 and 9.7 in 1908, against 12.8 and 10.7, respectively, for the group of other bay counties.

Conclusion.—The comparison of the nativity of white brides and mothers here made gives a rough measure of the relative fecundity of American and foreign born women in California. The figures indicate that in this State, as in the whole country, the foreign born women are more prone to bear children than are the American born, whether natives of California or of other states. For the proportion foreign born is much greater among mothers than among brides, whether the comparison is made for all brides or only the single ones. However, the proportion born elsewhere in the United States than California is slightly less among mothers than among all brides, though about the same for mothers as for single brides alone. The proportion born in the Golden States, moreover, is considerably less among mothers than among either all or only the single brides.

However, these conclusions are only tentative, because the registration of births in California does not yet seem to be quite so complete as the registration of marriages. The deficiency in the registration of births is probably greatest for births in the families of Californians and other Americans, since foreign born families from training abroad appear to realize the importance of promptly registering the births of their children. This deficiency in the registration of the births of children born to American mothers may account in part for the fact that the figures for California in 1909 and 1908 indicate that the fecundity of foreign born women is greater than that of native women. However, the recent data for California agree with the results of earlier statistical investigations in other states, so that it is quite safe to conclude that foreign born women surpass the natives, whether born in California or elsewhere, in the proclivity to bear children.

TABLE 23.—*Births classified by Sex and Race, and*

COUNTY.	Total Births.	Male.	Female.	White.			Negro.	Indian.
				Total.	Male.	Female.		
CALIFORNIA	30,882	16,150	14,732	29,736	15,516	14,220	222	34
Alameda	3,641	1,877	1,764	3,455	1,779	1,676	36	--------
Alpine	4	3	1	4	3	1	--------	--------
Amador	96	51	45	96	51	45	--------	--------
Butte	366	180	186	363	178	185	1	1
Calaveras	126	60	66	126	60	66	--------	--------
Colusa	73	36	37	72	35	37	1	--------
Contra Costa	288	154	134	284	151	133	1	--------
Del Norte	31	17	14	31	17	14	--------	--------
El Dorado	86	41	45	86	41	45	--------	--------
Fresno	1,168	585	583	1,119	555	564	13	--------
Glenn	42	23	19	42	23	19	--------	--------
Humboldt	430	231	199	424	229	195	--------	6
Imperial	97	42	55	96	42	54	--------	--------
Inyo	21	12	9	20	12	8	--------	--------
Kern	243	136	107	226	126	100	3	--------
Kings	243	128	115	231	123	108	5	--------
Lake	93	47	46	91	46	45	--------	2
Lassen	43	26	17	43	26	17	--------	--------
Los Angeles	6,710	3,525	3,185	6,426	3,383	3,043	101	3
Madera	111	60	51	109	59	50	--------	2
Marin	249	132	117	247	130	117	1	--------
Mariposa	22	14	8	22	14	8	--------	--------
Mendocino	173	79	94	173	79	94	--------	--------
Merced	103	59	44	102	58	44	--------	--------
Modoc	67	35	32	67	35	32	--------	--------
Mono	11	3	8	11	3	8	--------	--------
Monterey	264	129	135	247	121	126	--------	--------
Napa	173	95	78	170	94	76	--------	--------
Nevada	211	121	90	206	117	89	--------	--------
Orange	365	192	173	362	191	171	--------	--------
Placer	175	90	85	166	85	81	--------	--------
Plumas	43	21	22	42	21	21	--------	--------
Riverside	504	258	246	483	246	237	10	2
Sacramento	836	476	360	739	413	326	6	2
San Benito	64	33	31	62	32	30	--------	--------
San Bernardino	665	353	312	650	346	304	5	1
San Diego	624	320	304	615	316	299	4	3
San Francisco	6,630	3,449	3,181	6,415	3,329	3,086	19	--------
San Joaquin	577	333	244	555	322	233	2	--------
San Luis Obispo	195	103	92	193	102	91	--------	--------
San Mateo	356	189	167	350	186	164	1	--------
Santa Barbara	315	180	135	300	174	126	2	--------
Santa Clara	1,387	742	645	1,351	718	633	4	--------
Santa Cruz	306	168	138	279	151	128	--------	--------
Shasta	261	139	122	256	135	121	1	4
Sierra	29	14	15	29	14	15	--------	--------
Siskiyou	238	135	103	233	133	100	--------	5
Solano	339	162	177	331	158	173	1	--------
Sonoma	407	209	198	397	203	194	--------	--------
Stanislaus	253	121	132	248	116	132	3	--------
Sutter	91	51	40	89	50	39	--------	1
Tehama	83	45	38	79	42	37	--------	1
Trinity	29	9	20	28	8	20	--------	--------
Tulare	405	194	211	398	190	208	--------	1
Tuolumne	73	29	44	73	29	44	--------	--------
Ventura	238	123	115	230	116	114	1	--------
Yolo	112	66	46	103	61	42	1	--------
Yuba	97	45	52	91	39	52	--------	--------

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*Includes those of unknown nativity, numbering in the entire State only 88 (males *by Sex and Nativity of Mothers, for Counties: 1909.*

Chinese.	Japanese.	White Children With Mothers—								
		Born in California.			Born in Other States.*			Foreign Born.		
		Total.	Male.	Female.	Total.	Male.	Female.	Total	Male.	Female.
208	682	10,544	5,463	5,081	10,700	5,573	5,127	8,492	4,480	4,012
44	106	1,440	729	711	965	491	474	1,050	559	491
---------	---------	1	---------	1	3	3	---------	---------	---------	---------
---------	---------	51	26	25	10	7	3	35	18	17
---------	1	191	88	103	139	77	62	33	13	20
---------	---------	84	42	42	21	12	9	21	6	15
---------	---------	54	28	26	14	5	9	4	2	2
---------	3	106	57	49	53	27	26	125	67	58
---------	---------	9	5	4	20	11	9	2	1	1
---------	---------	58	27	31	16	9	7	12	5	7
4	32	251	121	130	520	264	256	348	170	178
---------	---------	19	11	8	22	11	11	1	1	---------
---------	---------	199	106	93	84	52	32	141	71	70
---------	1	12	6	6	75	32	43	9	4	5
1	---------	11	7	4	8	4	4	1	1	---------
6	8	74	44	30	105	54	51	47	28	19
5	2	91	48	43	112	61	51	28	14	14
---------	---------	66	32	34	17	9	8	8	5	3
---------	---------	30	21	9	10	4	6	3	1	2
16	164	960	514	446	3,740	1,935	1,805	1,726	934	792
---------	---------	38	23	15	40	18	22	31	18	13
---------	1	105	52	53	43	26	17	99	52	47
---------	---------	17	9	8	4	4	---------	1	1	---------
---------	---------	101	42	59	30	16	14	42	21	21
---------	1	45	21	24	23	17	6	34	20	14
---------	---------	33	16	17	28	16	12	6	3	3
---------	---------	4	---------	4	5	3	2	2	---------	2
3	14	125	62	63	59	29	30	63	30	33
2	1	87	42	45	46	26	20	37	26	11
3	2	120	71	49	44	19	25	42	27	15
---------	3	89	44	45	227	122	105	46	25	21
---------	9	86	41	45	49	25	24	31	19	12
1	---------	32	16	16	7	4	3	3	1	2
---------	9	90	48	42	296	149	147	97	49	48
8	81	379	203	176	196	113	83	164	97	67
---------	2	37	22	15	11	5	6	14	5	9
---------	9	121	68	53	384	208	176	145	70	75
1	1	103	37	66	376	207	169	136	72	64
89	107	2,675	1,409	1,266	1,069	538	531	2,671	1,382	1,289
2	18	279	157	122	173	108	65	103	57	46
---------	2	94	45	49	61	38	23	38	19	19
2	3	139	72	67	65	37	28	146	77	69
4	9	128	76	52	109	68	41	63	30	33
8	24	529	276	253	412	211	201	410	231	179
1	26	141	75	66	82	48	34	56	28	28
---------	---------	146	81	65	79	39	40	31	15	16
---------	---------	23	11	12	5	3	2	1	---------	1
---------	---------	111	66	45	77	43	34	45	24	21
1	6	174	76	98	76	38	38	81	44	37
---------	10	188	95	93	127	65	62	82	43	39
---------	2	96	48	48	97	42	55	55	26	29
---------	1	56	31	25	23	13	10	10	6	4
1	2	41	21	20	29	14	15	9	7	2
1	---------	23	7	16	3	---------	3	2	1	1
---------	6	125	61	64	234	108	126	39	21	18
---------	---------	47	22	25	17	6	11	9	1	8
2	5	82	40	42	109	51	58	39	25	14
---------	8	70	41	29	24	15	9	9	5	4
3	3	58	24	34	27	13	14	6	2	4

43, females 45).

TABLE 24.—*Births classified by Sex and Race, and*

COUNTY.	Total Births.	Male.	Female.	White.			Negro.	Indian.
				Total.	Male.	Female.		
CALIFORNIA	28,077	14,516	13,561	27,190	14,044	13,146	186	19
Alameda	3,323	1,734	1,589	3,151	1,651	1,500	27	--------
Alpine	7	2	5	7	2	5	--------	--------
Amador	45	23	22	45	23	22	--------	--------
Butte	261	137	124	254	132	122	3	1
Calaveras	115	58	57	115	58	57	--------	--------
Colusa	79	43	36	79	43	36	--------	--------
Contra Costa	292	150	142	288	147	141	--------	--------
Del Norte	28	16	12	28	16	12	--------	--------
El Dorado	98	48	50	98	48	50	--------	--------
Fresno	989	486	503	964	474	490	6	--------
Glenn	41	20	21	41	20	21	--------	--------
Humboldt	397	197	200	395	197	198	1	1
Imperial	60	32	28	60	32	28	--------	--------
Inyo	28	19	9	28	19	9	--------	--------
Kern	190	106	84	175	97	78	2	--------
Kings	209	116	93	201	111	90	3	--------
Lake	80	38	42	79	38	41	--------	1
Lassen	35	18	17	35	18	17	--------	--------
Los Angeles	6,404	3,398	3,006	6,182	3,283	2,899	87	4
Madera	106	60	46	102	58	44	1	2
Marin	302	154	148	300	154	146	1	--------
Mariposa	20	7	13	18	6	12	--------	1
Mendocino	142	70	72	141	70	71	--------	1
Merced	44	29	15	44	29	15	--------	--------
Modoc	49	17	32	49	17	32	--------	--------
Mono	8	5	3	8	5	3	--------	--------
Monterey	266	148	118	242	136	106	1	--------
Napa	151	69	82	148	68	80	--------	--------
Nevada	206	98	108	205	98	107	--------	--------
Orange	395	198	197	383	192	191	5	--------
Placer	115	62	53	111	59	52	--------	--------
Plumas	46	28	18	44	26	18	--------	--------
Riverside	443	225	218	423	216	207	7	2
Sacramento	713	362	351	662	324	338	7	--------
San Benito	61	33	28	61	33	28	--------	--------
San Bernardino	638	344	294	631	339	292	4	--------
San Diego	628	326	302	616	319	297	8	1
San Francisco	6,058	3,067	2,991	5,856	2,961	2,895	13	--------
San Joaquin	496	250	246	484	242	242	--------	--------
San Luis Obispo	203	115	88	201	113	88	1	--------
San Mateo	345	175	170	343	174	169	--------	--------
Santa Barbara	323	157	166	318	154	164	--------	--------
Santa Clara	1,202	630	572	1,184	618	566	2	--------
Santa Cruz	331	147	184	319	142	177	--------	--------
Shasta	202	106	96	198	103	95	--------	3
Sierra	37	24	13	37	24	13	--------	--------
Siskiyou	261	134	127	256	131	125	--------	2
Solano	332	165	167	326	163	163	1	--------
Sonoma	333	178	155	331	177	154	--------	--------
Stanislaus	144	73	71	143	72	71	1	--------
Sutter	63	30	33	63	30	33	--------	--------
Tehama	78	41	37	75	39	36	--------	--------
Trinity	20	12	8	20	12	8	--------	--------
Tulare	357	192	165	353	191	162	--------	--------
Tuolumne	32	17	15	32	17	15	--------	--------
Ventura	137	71	66	134	70	64	1	--------
Yolo	35	13	22	34	12	22	--------	--------
Yuba	74	43	31	70	41	29	4	--------

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*Includes those of unknown nativity, numbering in the entire State only 146 *by Sex and Nativity of Mothers, for Counties: 1908.*

Chinese.	Japanese.	White Children With Mothers—								
		Born in California.			Born in Other States.*			Foreign Born.		
		Total	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
227	455	9,469	4,816	4,653	10,099	5,314	4,785	7,622	3,908	3,714
54	91	1,288	680	608	927	476	451	936	495	441
---------	---------	5	2	3	2	---------	2	---------	---------	---------
---------	---------	22	11	11	5	3	2	18	9	9
---------	3	131	61	70	99	59	40	24	12	12
---------	---------	68	31	37	19	11	8	28	16	12
---------	---------	57	33	24	17	7	10	5	3	2
---------	4	118	49	69	81	49	32	89	49	40
---------	---------	9	6	3	16	8	8	3	2	1
---------	---------	63	35	28	20	9	11	15	4	11
6	13	221	115	106	413	190	223	330	169	161
---------	---------	22	11	11	16	8	8	3	1	2
---------	---------	183	93	90	104	51	53	108	55	53
---------	---------	7	3	4	50	27	23	3	2	1
---------	---------	17	11	6	7	5	2	4	3	1
9	4	62	35	27	72	40	32	41	22	19
2	3	61	27	34	114	66	48	26	18	8
---------	---------	53	27	26	22	9	13	4	2	2
---------	---------	25	13	12	8	5	3	2	---------	2
17	114	1,031	532	499	3,667	1,987	1,680	1,484	764	720
---------	1	48	26	22	38	21	17	16	11	5
---------	1	132	66	66	61	35	26	107	53	54
1	---------	15	4	11	2	1	1	1	1	---------
---------	---------	74	38	36	25	14	11	42	18	24
---------	---------	23	18	5	7	5	2	14	6	8
---------	---------	28	4	24	18	12	6	3	1	2
---------	---------	3	2	1	5	3	2	---------	---------	---------
6	17	129	72	57	48	24	24	65	40	25
1	2	67	38	29	37	15	22	44	15	29
1	---------	113	52	61	53	22	31	39	24	15
---------	7	91	45	46	247	122	125	45	25	20
---------	4	58	25	33	42	26	16	11	8	3
1	1	26	14	12	11	7	4	7	5	2
---------	11	86	45	41	273	135	138	64	36	28
12	32	337	171	166	175	78	97	150	75	75
---------	---------	45	22	23	9	6	3	7	5	2
---------	3	109	53	56	390	213	177	132	67	65
---------	3	131	69	62	365	193	172	120	57	63
98	91	2,323	1,155	1,168	1,083	566	517	2,450	1,240	1,210
4	8	230	112	118	151	81	70	103	49	54
1	---------	108	55	53	52	27	25	41	31	10
---------	2	101	45	56	62	40	22	180	89	91
1	4	148	77	71	104	45	59	66	32	34
4	12	479	252	227	320	164	156	385	202	183
1	11	161	76	85	110	49	61	48	17	31
1	---------	101	53	48	68	34	34	29	16	13
---------	---------	26	18	8	8	4	4	3	2	1
3	---------	119	65	54	95	47	48	42	19	23
1	4	168	75	93	79	46	33	79	42	37
1	1	146	79	67	105	60	45	80	38	42
---------	---------	61	35	26	41	21	20	41	16	25
---------	---------	39	17	22	17	10	7	7	3	4
2	1	36	20	16	29	16	13	10	3	7
---------	---------	15	8	7	3	3	---------	2	1	1
---------	4	111	69	42	203	100	103	39	22	17
---------	---------	22	8	14	5	5	---------	5	4	1
---------	2	55	24	31	65	38	27	14	8	6
---------	1	19	7	12	11	4	7	4	1	3
---------	---------	43	27	16	23	14	9	4	---------	4

(males 75, females 71).

TABLE 25.—*Births classified by Sex and*

CITY.	Total Births.	Male.	Female.	White.			Negro	Indian.
				Total.	Male.	Female.		
26 FREEHOLDERS' CHARTER CITIES	18,906	9,867	9,039	18,163	9,470	8,693	171	5
Alameda County*	537	265	272	522	257	265	6	
Alameda city	411	218	193	379	199	180	2	
Berkeley city	669	350	319	636	336	300	4	
Oakland city	2,024	1,044	980	1,918	987	931	24	
Contra Costa County*	252	134	118	248	131	117	1	
Richmond city	36	20	16	36	20	16		
Fresno County*	747	379	368	709	355	354	10	
Fresno city	421	206	215	410	200	210	3	
Humboldt County*	185	104	81	181	103	78		4
Eureka city	245	127	118	243	126	117		2
Los Angeles County*	1,447	761	686	1,385	723	662	4	
Long Beach city	223	137	86	220	136	84	1	
Los Angeles city	4,548	2,376	2,172	4,345	2,279	2,066	83	2
Pasadena city	409	214	195	395	209	186	11	1
Santa Monica city	83	37	46	81	36	45	2	
Monterey County*	211	107	104	195	99	96		
Salinas city	53	22	31	52	22	30		
Napa County*	70	42	28	68	41	27		
Napa city	103	53	50	102	53	49		
Nevada County*	141	83	58	136	79	57		
Grass Valley city	70	38	32	70	38	32		
Riverside County*	254	131	123	248	128	120	2	2
Riverside city	250	127	123	235	118	117	8	
Sacramento County*	307	178	129	259	151	108	3	2
Sacramento city	529	298	231	480	262	218	3	
San Bernardino County*	458	250	208	449	246	203	4	1
San Bernardino city	207	103	104	201	100	101	1	
San Diego County*	157	72	85	153	70	83	1	3
San Diego city	467	248	219	462	246	216	3	
San Francisco: (City and County)	6,630	3,449	3,181	6,415	3,329	3,086	19	
San Joaquin County*	296	178	118	277	169	108	1	
Stockton city	281	155	126	278	153	125	1	
Santa Barbara County*	157	89	68	144	84	60	1	
Santa Barbara city	158	91	67	156	90	66	1	
Santa Clara County*	866	478	388	842	461	381		
Palo Alto city	62	33	29	62	33	29		
San Jose city	459	231	228	447	224	223	4	
Santa Cruz County*	60	33	27	56	30	26		
Santa Cruz city	135	75	60	135	75	60		
Watsonville city	111	60	51	88	46	42		
Solano County*	153	71	82	148	68	80		
Vallejo city	186	91	95	183	90	93	1	
Sonoma County*	271	145	126	263	140	123		
Santa Rosa city	136	64	72	134	63	71		

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*Figures are for county exclusive of freeholders' charter city or cities.

†Includes those of unknown nativity, numbering in the twenty-six freeholders'

Race, and by Sex and Nativity of Mothers, for Cities: 1909.

Chinese.	Japanese.	White Children With Mothers—								
		Born in California.			Born in Other States.			Foreign Born.		
		Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
161	406	6,063	3,163	2,900	6,196	3,224	2,972	5,904	3,083	2,821
4	5	232	118	114	130	65	65	160	74	86
---------	30	175	89	86	98	53	45	106	57	49
2	27	265	133	132	226	121	105	145	82	63
38	44	768	389	379	511	252	259	639	346	293
---------	3	90	48	42	51	27	24	107	56	51
---------	---------	16	9	7	2	---------	2	18	11	7
1	27	135	66	69	354	173	181	220	116	104
3	5	116	55	61	166	91	75	128	54	74
---------	---------	93	54	39	38	24	14	50	25	25
---------	---------	106	52	54	46	28	18	91	46	45
1	57	236	125	111	811	411	400	338	187	151
---------	2	32	18	14	163	100	63	25	18	7
15	103	643	343	300	2,423	1,254	1,169	1,279	682	597
---------	2	28	17	11	294	149	145	73	43	30
---------	---------	21	11	10	49	21	28	11	4	7
3	13	96	50	46	50	26	24	49	23	26
---------	1	29	12	17	9	3	6	14	7	7
1	1	26	13	13	23	15	8	19	13	6
1	---------	61	29	32	23	11	12	18	13	5
3	2	74	45	29	30	13	17	32	21	11
---------	---------	46	26	20	14	6	8	10	6	4
---------	2	50	23	27	154	78	76	44	27	17
---------	7	40	25	15	142	71	71	53	22	31
3	40	126	69	57	63	39	24	70	43	27
5	41	253	134	119	133	74	59	94	54	40
---------	4	73	42	31	271	147	124	105	57	48
---------	5	48	26	22	113	61	52	40	13	27
---------	---------	28	7	21	92	44	48	33	19	14
1	1	75	30	45	284	163	121	103	53	50
89	107	2,675	1,409	1,266	1,069	538	531	2,671	1,382	1,289
2	16	126	72	54	99	66	33	52	31	21
---------	2	153	85	68	74	42	32	51	26	25
4	8	73	42	31	44	28	16	27	14	13
---------	1	55	34	21	65	40	25	36	16	20
3	21	330	168	162	281	150	131	231	143	88
---------	---------	25	13	12	26	13	13	11	7	4
5	3	174	95	79	105	48	57	168	81	87
---------	4	32	16	16	20	12	8	4	2	2
---------	---------	61	36	25	44	27	17	30	12	18
1	22	48	23	25	18	9	9	22	14	8
---------	5	80	32	48	31	15	16	37	21	16
1	1	94	44	50	45	23	22	44	23	21
---------	8	132	69	63	73	39	34	58	32	26
---------	2	56	26	30	54	26	28	24	11	13

charter cities only 48 (males 25, females 23).

TABLE 26.—*Births classified by Sex and*

CITY.	Total Births.	Male.	Female	White.			Negro.	Indian.
				Total.	Male.	Female.		
24 FREEHOLDERS' CHARTER CITIES	17,586	9,089	8,497	16,949	8,767	8,182	143	5
Alameda County*	517	267	250	501	256	245	5	---------
Alameda city	413	232	181	385	218	167	2	---------
Berkeley city	567	301	266	537	282	255	4	---------
Oakland city	1,826	934	892	1,728	895	833	16	---------
Fresno County*	570	281	289	558	275	283	4	---------
Fresno city	419	205	214	406	199	207	2	---------
Humboldt County*	152	68	84	151	68	83	1	---------
Eureka city	245	129	116	244	129	115	---------	1
Los Angeles County*	1,288	679	609	1,253	659	594	2	---------
Long Beach city	188	114	74	183	112	71	2	---------
Los Angeles city	4,399	2,327	2,072	4,236	2,241	1,995	70	4
Pasadena city	436	234	202	423	230	193	8	---------
Santa Monica city	93	44	49	87	41	46	5	---------
Monterey County*	191	106	85	168	94	74	1	---------
Salinas city	75	42	33	74	42	32	---------	---------
Napa County*	75	29	46	73	28	45	---------	---------
Napa city	76	40	36	75	40	35	---------	---------
Nevada County*	148	70	78	147	70	77	---------	---------
Grass Valley city	58	28	30	58	28	30	---------	---------
Riverside County*	218	109	109	214	108	106	---------	2
Riverside city	225	116	109	209	108	101	7	---------
Sacramento County*	190	96	94	166	76	90	1	---------
Sacramento city	523	266	257	496	248	248	6	---------
San Bernardino County*	419	232	187	413	228	185	4	---------
San Bernardino city	219	112	107	218	111	107	---------	---------
San Diego County*	205	101	104	203	100	103	1	1
San Diego city	423	225	198	413	219	194	7	---------
San Francisco: (City and County)	6,058	3,067	2,991	5,856	2,961	2,895	13	---------
San Joaquin County*	234	119	115	225	114	111	---------	---------
Stockton city	262	131	131	259	128	131	---------	---------
Santa Barbara County*	182	89	93	179	87	92	---------	---------
Santa Barbara city	141	68	73	139	67	72	---------	---------
Santa Clara County*	835	431	404	823	421	402	1	---------
San Jose city	367	199	168	361	197	164	1	---------
Santa Cruz County*	72	35	37	68	33	35	---------	---------
Santa Cruz city	168	75	93	166	75	91	---------	---------
Watsonville city	91	37	54	85	34	51	---------	---------
Solano County*	149	74	75	145	73	72	1	---------
Vallejo city	183	91	92	181	90	91	---------	---------
Sonoma County*	202	106	96	201	105	96	---------	---------
Santa Rosa city	131	72	59	130	72	58	---------	---------

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*Figures are for county exclusive of freeholders' charter city or cities.

†Includes those of unknown nativity, numbering in the twenty-four freeholders'

Race, and by Sex and Nativity of Mothers, for Cities: 1908.

Chinese.	Japanese.	White Children With Mothers—								
		Born in California.			Born in Other States.†			Foreign Born.		
		Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
185	304	5,500	2,807	2,693	6,131	3,244	2,887	5,318	2,710	2,608
1	10	206	98	108	134	64	70	161	94	67
1	25	163	92	71	117	71	46	104	55	49
3	23	244	132	112	169	82	87	124	68	56
49	33	675	358	317	506	259	247	547	278	269
1	7	119	64	55	230	106	124	209	105	104
5	6	102	51	51	183	84	99	121	64	57
---------	---------	89	42	47	33	14	19	29	12	17
---------	---------	94	51	43	71	35	36	79	43	36
---------	33	265	145	120	746	397	349	242	117	125
---------	3	27	17	10	138	85	53	18	10	8
17	72	691	347	344	2,421	1,321	1,100	1,124	573	551
---------	5	30	16	14	312	159	153	81	55	26
---------	1	18	7	11	50	25	25	19	9	10
6	16	80	45	35	38	20	18	50	29	21
---------	1	49	27	22	10	4	6	15	11	4
1	1	27	14	13	18	5	13	28	9	19
---------	1	40	24	16	19	10	9	16	6	10
1	---------	77	37	40	38	13	25	32	20	12
---------	---------	36	15	21	15	9	6	7	4	3
---------	2	54	27	27	130	62	68	30	19	11
---------	9	32	18	14	143	73	70	34	17	17
7	16	78	33	45	47	21	26	41	22	19
5	16	259	138	121	128	57	71	109	53	56
---------	2	63	33	30	274	148	126	76	47	29
---------	1	46	20	26	116	65	51	56	20	36
---------	---------	62	33	29	109	50	59	32	17	15
---------	3	69	36	33	256	143	113	88	40	48
98	91	2,323	1,155	1,168	1,083	566	517	2,450	1,240	1,210
2	7	92	46	46	90	51	39	43	17	26
2	1	138	66	72	61	30	31	60	32	28
1	2	98	50	48	46	20	26	35	17	18
---------	2	50	27	23	58	25	33	31	15	16
2	9	339	172	167	236	119	117	248	130	118
2	3	140	80	60	84	45	39	137	72	65
---------	4	33	15	18	22	13	9	13	5	8
---------	2	75	41	34	69	27	42	22	7	15
1	5	53	20	33	19	9	10	13	5	8
---------	3	78	37	41	28	15	13	39	21	18
1	1	90	38	52	51	31	20	40	21	19
---------	1	90	48	42	54	31	23	57	26	31
1	---------	56	31	25	51	29	22	23	12	11

charter cities only 91 (males 49, females 42).

TABLE 27.—*Births classified by Sex, Race, and Nativity of Mothers, with Per Cents by Sex, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION AND RACE OR NATIVITY OF MOTHER.	Births.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	30,882	28,077	16,150	14,516	14,732	13,561	52.3	51.7	47.7	48.3
White	29,736	27,190	15,516	14,044	14,220	13,146	52.2	51.7	47.8	48.3
Born in California	10,544	9,469	5,463	4,816	5,081	4,653	51.8	50.9	48.2	49.1
Born in other states*	10,700	10,099	5,573	5,314	5,127	4,785	52.1	52.6	47.9	47.4
Foreign born	8,492	7,622	4,480	3,908	4,012	3,714	52.8	51.3	47.2	48.7
Non-Caucasian	1,146	887	634	472	512	415	55.3	53.2	44.7	46.8
Northern California	3,155	2,698	1,648	1,381	1,507	1,317	52.2	51.2	47.8	48.8
White	3,092	2,659	1,609	1,359	1,483	1,300	52.0	51.1	48.0	48.9
Born in California	1,673	1,371	855	702	818	669	51.1	51.2	48.9	48.8
Born in other states*	880	816	465	429	415	387	52.8	52.6	47.2	47.4
Foreign born	539	472	289	228	250	244	53.6	48.3	46.4	51.7
Non-Caucasian	63	39	39	22	24	17	61.9	56.4	38.1	43.6
Coast counties	1,336	1,151	687	580	649	571	51.4	50.4	48.6	49.6
White	1,314	1,142	676	578	638	564	51.4	50.6	48.6	49.4
Born in California	673	547	329	289	344	258	48.9	52.8	51.1	47.2
Born in other states*	327	312	179	158	148	154	54.7	50.6	45.3	49.4
Foreign born	314	283	168	131	146	152	53.5	46.3	46.5	53.7
Non-Caucasian	22	9	11	2	11	7	50.0	22.2	50.0	77.8
Interior counties	1,819	1,547	961	801	858	746	52.8	51.8	47.2	48.2
White	1,778	1,517	933	781	845	736	52.5	51.5	47.5	48.5
Born in California	1,000	824	526	413	474	411	52.6	50.1	47.4	49.9
Born in other states*	553	504	286	271	267	233	51.7	53.8	48.3	46.2
Foreign born	225	189	121	97	104	92	53.8	51.3	46.2	48.7
Non-Caucasian	41	30	28	20	13	10	68.3	66.7	31.7	33.3
Central California	18,209	16,351	9,509	8,384	8,700	7,967	52.2	51.3	47.8	48.7
White	17,482	15,784	9,093	8,080	8,389	7,704	52.0	51.2	48.0	48.8
Born in California	7,286	6,440	3,775	3,266	3,511	3,174	51.8	50.7	48.2	49.3
Born in other states*	4,504	4,122	2,336	2,125	2,168	1,997	51.9	51.6	48.1	48.4
Foreign born	5,692	5,222	2,982	2,689	2,710	2,533	52.4	51.5	47.6	48.5
Non-Caucasian	727	567	416	304	311	263	57.2	53.6	42.8	46.4
San Francisco	6,630	6,058	3,449	3,067	3,181	2,991	52.0	50.6	48.0	49.4
White	6,415	5,856	3,329	2,961	3,086	2,895	51.9	50.6	48.1	49.4
Born in California	2,675	2,323	1,409	1,155	1,266	1,168	52.7	49.7	47.3	50.3
Born in other states*	1,069	1,083	538	566	531	517	50.3	52.3	49.7	47.7
Foreign born	2,671	2,450	1,382	1,240	1,289	1,210	51.7	50.6	48.3	49.4
Non-Caucasian	215	202	120	106	95	96	55.8	52.5	44.2	47.5
Other bay counties	4,534	4,262	2,352	2,213	2,182	2,049	51.9	51.9	48.1	48.1
White	4,336	4,082	2,246	2,126	2,090	1,956	51.8	52.1	48.2	47.9
Born in California	1,790	1,639	910	840	880	799	50.8	51.3	49.2	48.7
Born in other states*	1,126	1,131	581	600	545	531	51.6	53.1	48.4	46.9
Foreign born	1,420	1,312	755	686	665	626	53.2	52.3	46.8	47.7
Non-Caucasian	198	180	106	87	92	93	53.5	48.3	46.5	51.7
Coast counties	2,216	2,063	1,175	1,073	1,041	990	53.0	52.0	47.0	48.0
White	2,132	2,007	1,124	1,042	1,008	965	52.7	51.9	47.3	48.1
Born in California	926	922	480	477	446	445	51.8	51.7	48.2	48.3
Born in other states*	625	539	331	270	294	269	53.0	50.1	47.0	49.9
Foreign born	581	546	313	295	268	251	53.9	54.0	46.1	46.0
Non-Caucasian	84	56	51	31	33	25	60.7	55.4	39.3	44.6
Interior counties	4,829	3,968	2,533	2,031	2,296	1,937	52.5	51.2	47.5	48.8
White	4,599	3,839	2,394	1,951	2,205	1,888	52.1	50.8	47.9	49.2
Born in California	1,895	1,556	976	794	919	762	51.5	51.0	48.5	49.0
Born in other states*	1,684	1,369	886	689	798	680	52.6	50.3	47.4	49.7
Foreign born	1,020	914	532	468	488	446	52.2	51.2	47.8	48.8
Non-Caucasian	230	129	139	80	91	49	60.4	62.0	39.6	38.0
Southern California	9,518	9,028	4,993	4,751	4,525	4,277	52.5	52.6	47.5	47.4
White	9,162	8,747	4,814	4,605	4,348	4,142	52.5	52.6	47.5	47.4
Born in California	1,585	1,658	833	848	752	810	52.6	51.1	47.4	48.9
Born in other states*	5,316	5,161	2,772	2,760	2,544	2,401	52.1	53.5	47.9	46.5
Foreign born	2,261	1,928	1,209	991	1,052	937	53.5	51.4	46.5	48.6
Non-Caucasian	356	281	179	146	177	135	50.3	52.0	49.7	48.0
Los Angeles	6,710	6,404	3,525	3,398	3,185	3,006	52.5	53.1	47.5	46.9
White	6,426	6,182	3,383	3,283	3,043	2,899	52.6	53.1	47.4	46.9
Born in California	960	1,031	514	532	446	499	53.5	51.6	46.5	48.4
Born in other states*	3,740	3,667	1,935	1,987	1,805	1,680	51.7	54.2	48.3	45.8
Foreign born	1,726	1,481	934	764	792	720	54.1	51.5	45.9	48.5
Non-Caucasian	284	222	142	115	142	107	50.0	51.8	50.0	48.2

*Includes those of unknown nativity, numbering in the entire State in 1909 only 88 (males 43, females 45), and in 1908 only 146 (males 75, females 71).

TABLE 27.—*Births classified by Sex, Race, and Nativity of Mothers, with Per Cents by Sex, for Geographic Divisions: 1909 and 1908—Continued.*

GEOGRAPHIC DIVISION AND RACE OR NATIVITY OF MOTHER.	Births.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
Other counties	2,808	2,624	1,468	1,353	1,340	1,271	52.3	51.6	47.7	48.4
White	2,736	2,565	1,431	1,322	1,305	1,243	52.3	51.5	47.7	48.5
Born in California	625	627	319	316	306	311	51.0	50.4	49.0	49.6
Born in other states*	1,576	1,494	837	773	739	721	53.1	51.7	46.9	48.3
Foreign born	535	444	275	227	260	217	51.4	51.1	48.6	48.9
Non-Caucasian	72	59	37	31	35	28	51.4	52.5	48.6	47.5
Northern and Central California	21,364	19,049	11,157	9,765	10,207	9,284	52.2	51.3	47.8	48.7
White	20,574	18,443	10,702	9,439	9,872	9,004	52.0	51.2	48.0	48.8
Born in California	8,959	7,811	4,630	3,968	4,329	3,843	51.7	50.8	48.3	49.2
Born in other states*	5,384	4,938	2,801	2,554	2,583	2,384	52.0	51.7	48.0	48.3
Foreign born	6,231	5,694	3,271	2,917	2,960	2,777	52.5	51.2	47.5	48.8
Non-Caucasian	790	606	455	326	335	280	57.6	53.8	42.4	46.2
Coast counties	14,716	13,534	7,663	6,933	7,053	6,601	52.1	51.2	47.9	48.8
White	14,197	13,087	7,375	6,707	6,822	6,380	51.9	51.2	48.1	48.8
Born in California	6,064	5,431	3,128	2,761	2,936	2,670	51.6	50.8	48.4	49.2
Born in other states*	3,147	3,065	1,629	1,594	1,518	1,471	51.8	52.0	48.2	48.0
Foreign born	4,986	4,591	2,618	2,352	2,368	2,239	52.5	51.2	47.5	48.8
Non-Caucasian	519	447	288	226	231	221	55.5	50.6	44.5	49.4
Interior counties	6,648	5,515	3,494	2,832	3,154	2,683	52.6	51.4	47.4	48.6
White	6,377	5,356	3,327	2,732	3,050	2,624	52.2	51.0	47.8	49.0
Born in California	2,895	2,380	1,502	1,207	1,393	1,173	51.9	50.7	48.1	49.3
Born in other states*	2,237	1,873	1,172	960	1,065	913	52.4	51.3	47.6	48.7
Foreign born	1,245	1,103	653	565	592	538	52.4	51.2	47.6	48.8
Non-Caucasian	271	159	167	100	104	59	61.6	62.9	38.4	37.1
Metropolitan area	11,164	10,320	5,801	5,280	5,363	5,040	52.0	51.2	48.0	48.8
White	10,751	9,938	5,575	5,087	5,176	4,851	51.9	51.2	48.1	48.8
Born in California	4,465	3,962	2,319	1,995	2,146	1,967	51.9	50.4	48.1	49.6
Born in other states*	2,195	2,214	1,119	1,166	1,076	1,048	51.0	52.7	49.0	47.3
Foreign born	4,091	3,762	2,137	1,926	1,954	1,836	52.2	51.2	47.8	48.8
Non-Caucasian	413	382	226	193	187	189	54.7	50.5	45.3	49.5
Rural counties	10,200	8,729	5,356	4,485	4,844	4,244	52.5	51.4	47.5	48.6
White	9,823	8,505	5,127	4,352	4,696	4,153	52.2	51.2	47.8	48.8
Born in California	4,494	3,849	2,311	1,973	2,183	1,876	51.4	51.3	48.6	48.7
Born in other states*	3,189	2,724	1,682	1,388	1,507	1,336	52.7	51.0	47.3	49.0
Foreign born	2,140	1,932	1,134	991	1,006	941	53.0	51.3	47.0	48.7
Non-Caucasian	377	224	229	133	148	91	60.7	59.4	39.3	40.6

TABLE 28.—*Births classified by Sex, Race, and Nativity of Mothers, with Per Cents by Sex, for Cities and Rest of State: 1909 and 1908.*

POPULATION GROUP AND RACE OR NATIVITY OF MOTHER.	Births.						Per Cent Male		Per Cent Female.	
	Total.		Male		Female.					
	1909	1908.	1909.	1908.	1909.	1908	1909.	1908.	1909.	1908.
CALIFORNIA	30,882	28,077	16,150	14,516	14,732	13,561	52.3	51.7	47.7	48.3
White	29,736	27,190	15,516	14,044	14,220	13,146	52.2	51.7	47.8	48.3
Born in California	10,544	9,469	5,463	4,816	5,081	4,653	51.8	50.9	48.2	49.1
Born in other states*	10,700	10,099	5,573	5,314	5,127	4,785	52.1	52.6	47.9	47.4
Foreign born	8,492	7,622	4,480	3,908	4,012	3,714	52.8	51.3	47.2	48.7
Non-Caucasian	1,146	887	634	472	512	415	55.3	53.2	44.7	46.8
Freeholders' charter cities	18,906	17,586	9,867	9,089	9,039	8,497	52.2	51.7	47.8	48.3
White	18,163	16,949	9,470	8,767	8,693	8,182	52.1	51.7	47.9	48.3
Born in California	6,063	5,500	3,163	2,807	2,900	2,693	52.2	51.0	47.8	49.0
Born in other states*	6,196	6,131	3,224	3,244	2,972	2,887	52.0	52.9	48.0	47.1
Foreign born	5,904	5,318	3,083	2,710	2,821	2,608	52.2	51.0	47.8	49.0
Non-Caucasian	743	637	397	322	346	315	53.4	50.5	46.6	49.5
Rest of State	11,976	10,491	6,283	5,247	5,693	5,064	52.5	51.7	47.5	48.3
White	11,573	10,241	6,046	5,227	5,527	4,964	52.2	51.5	47.8	48.5
Born in California	4,481	3,969	2,300	2,009	2,181	1,960	51.3	50.6	48.7	49.4
Born in other states*	4,504	3,968	2,349	2,070	2,155	1,898	52.2	52.2	47.8	47.8
Foreign born	2,588	2,304	1,397	1,198	1,191	1,106	54.0	52.0	46.0	48.0
Non-Caucasian	403	250	237	150	166	100	58.8	60.0	41.2	40.0

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*Includes those of unknown nativity, numbering in the entire State in 1909 only 88 (males 43, females 45), and in 1908 only 146 (males 75, females 71).

STATISTICS OF DEATHS: 1909 AND 1908.

SUMMARY.

Death Totals and Decrease.—The deaths in California, exclusive of stillbirths, numbered 29,303 in 1906, 31,095 in 1907, 31,287 in 1908, and 30,985 in 1909.

While deaths increased by 1,792, or 6.1 per cent, in 1906 to 1907 and by 192, or 0.6 per cent, in 1907 to 1908, they decreased by 302, or 1.0 per cent, in 1908 to 1909, the total for 1909 being less by 110 than that for 1907.

The death total for the counties north of Tehachapi was 21,545 in 1909 against 22,293 in 1908, a decrease of 748, or 3.4 per cent. The total for the counties south of Tehachapi, on the other hand, was 9,440 in 1909 as compared with 8,994 in 1908, an increase of 446, or 5.0 per cent.

In 1908 to 1909 only twenty-one counties showed increases in deaths, while thirty-seven showed decreases.

Deaths decreased by at least one tenth, 10.0 per cent, in the following nineteen counties: Alpine, Imperial, Sierra, Glenn, Modoc, Trinity, Sutter, Plumas, Del Norte, San Benito, Fresno, Contra Costa, Inyo, Merced, Yuba, San Diego, Nevada, San Mateo, and Kings.

The decrease in deaths was slightly less for freeholders' charter cities (0.8 per cent) than for all the rest of the State (1.1 per cent).

As many as sixteen chartered cities reported fewer deaths in 1909 than in 1908, the decreases being over 5.0 per cent for the following cities: Grass Valley, Fresno, San Diego, Eureka, Napa, Sacramento, Santa Monica, and Stockton.

Death-Rates.—For an estimated midyear population of 2,306,001 in 1909, the 30,985 deaths give a rate of 13.4, and for an estimated midyear population of 2,215,615 in 1908, the 31,287 deaths give a rate of 14.1 per 1,000 population.

The death-rates are somewhat higher for the counties north of Tehachapi than for those to the south. The rates are also higher for the metropolitan area than for the rural counties north of Tehachapi, for San Francisco than for its suburbs, and for Los Angeles than for the rest of Southern California.

The individual counties with death-rates above the State averages each year were: Napa, San Joaquin, Sacramento, San Bernardino, Shasta, Butte, El Dorado, Plumas, Nevada, Yuba, San Francisco, Santa Clara, and Alameda.

The death-rate is somewhat higher within chartered cities, 14.1 in 1909 and 14.9 in 1908, than outside them, 12.7 and 13.3, respectively.

The death-rates were above the city averages each year in San Bernardino, Stockton, Santa Barbara, Santa Cruz, Sacramento, San Diego, Eureka, Vallejo, and San Francisco.

On the other hand there were notably low death-rates both years in Berkeley, Oakland, Napa, Los Angeles, San Jose, and Santa Rosa.

Causes of Death.—Tuberculosis is the leading single cause of death in California, causing over one seventh of all deaths (15.1 per cent in 1909 and 14.6 per cent in 1908.) The tuberculosis death-rate per 100,000 population was 202.6 in 1909 and 206.1 in 1908.

For diseases of the circulatory system (heart disease, etc.), the per cents in 1909 and 1908 were 16.0 and 14.5 and the death rates per 100,000 were 215.3 and 204.9, respectively.

The per cents of total deaths from pneumonia and other diseases of the respiratory system were 9.4 and 10.5, while the death-rates per 100,000 for this class of diseases were 126.7 and 148.2.

Diseases of the nervous system caused 9.3 per cent of all deaths in 1909 and 9.6 per cent in 1908, the death-rates per 100,000 being 124.8 and 135.1.

Other prominent causes of death in 1909 and 1908 were: Diseases of the digestive system, miscellaneous violence, cancer, and Bright's disease.

Typhoid fever, as usual, was the most fatal epidemic disease, causing 1.5 per cent of all deaths in 1909 and 1.7 per cent in 1908. However, the total for typhoid fever has fallen steadily in recent years, as follows: 1906, 657; 1907, 558; 1908, 540; and 1909, 461.

Diphtheria and croup caused 0.8 per cent of all deaths in 1909 against 1.3 per cent in 1908. Next in order were whooping-cough, measles, malarial fever, influenza, scarlet fever, smallpox (causing 6 deaths in 1909 and 9 in 1908), and plague (causing only 1 death in 1909 against 5 in 1908).

Geographic Divisions.—Analysis of causes of death in different localities reveals marked contrasts between the several geographic divisions in the relative prevalence of various diseases.

In the coast counties of both Northern and Central California, as well as in Southern California outside Los Angeles, relatively high proportions of all deaths are due to diseases of the nervous system, the explanation being the presence of State hospitals in these three geographic divisions.

The interior counties of Northern California show high proportions for miscellaneous deaths from violence, as drowning, railroad injuries, other accidents, etc.

In the interior counties of both Northern and Central California the proportions are high for typhoid fever and for diphtheria and croup. Typhoid fever was also quite prevalent each year in the counties south of Tehachapi other than Los Angeles.

Each year large proportions of all deaths in San Francisco and the other bay counties were from diseases of the circulatory system (heart disease, etc.) and also from pneumonia. The suburban district leads in deaths from diarrhea among children under 2 years of age, and the main city leads especially in the proportion of suicides among all decedents.

The proportion of deaths from tuberculosis was very high indeed each year in Los Angeles, as well as in the other counties of Southern California, on account of the many deaths occurring among newcomers from the East.

Contrast between mortality in the metropolitan area and in the rural counties north of Tehachapi shows that the urban territory excels in deaths from heart disease, Bright's disease, cancer, pneumonia, infancy, suicide, whooping-cough, and measles, while the country districts excel in deaths from diseases of the nervous system, accidental violence, ''old age,'' typhoid fever, diphtheria and croup, and malarial fever.

Much the same contrast appears between mortality in chartered cities as a class and in all the rest of the State as a whole.

Tuberculosis.—The ''great white plague'' caused altogether 4,673 deaths, or 15.1 per cent of all, in 1909 and 4,565, or 14.6 per cent, in 1908. The per cent of total deaths from tuberculosis was no less than 19.8 each year for Southern California, against only 13.0 in 1909 and 12.5 in 1908 for the counties north of Tehachapi.

Among cities, the per cent of tuberculosis deaths was highest for San Bernardino, Pasadena, Riverside, Los Angeles, Stockton, and San Diego, all except Stockton being in Southern California.

Classification of deaths from tuberculosis by length of residence shows that north of Tehachapi many native Californians and old time residents succumb to this disease. The per cents of native Californians among tuberculosis victims in 1909 and 1908 were 38.9 and 37.8 for Northern and Central California together against only 17.0 and 15.7 for Southern California, being 30.2 and 29.2 for the entire State. Similarly, the per cents who had lived here at least 10 years were 27.9 and 29.7 for the counties north of Tehachapi in 1909 and 1908 as compared with only 19.8 and 17.6 for those to the south, being 24.6 and 25.0 for the State as a whole.

South of Tehachapi, on the other hand, deaths from tuberculosis occur largely among newly arrived consumptives. The per cents of tuberculosis victims who had lived in the State less than 10 years were as great as 54.8 and 52.5 in 1909 and 1908 for Southern California as compared with only 16.3 and 17.0 for counties north of Tehachapi and 31.9 and 30.8 for the whole State. Moreover, the length of residence in California was less than a year for 16.4 per cent of the victims south of Tehachapi in 1909 and for 17.3 per cent in 1908, the corresponding per cents for the entire State being only 8.2 and 8.8. In fact, of all who died of tuberculosis in Southern California, those who had been in the State less than a month were 2.0 per cent each year, those less than three months 7.0 and 6.6 per cent in 1909 and 1908, respectively, and those less than half a year altogether 11.2 and 12.0 per cent.

Among tuberculosis victims in cities, the per cents for residents of less than 10 years' standing were as follows in 1909 and 1908, respectively: Pasadena, 76.3 and 77.0; Riverside, 58.8 and 69.8; San Diego, 58.0 and 57.6; San Bernardino, 54.6 and 55.1; and Los Angeles, 55.7 and 44.7. Moreover, the per cents for residents of less than a single year's standing were as follows: San Diego, 20.4 and 20.8; Riverside, 17.6 and 25.6; Los Angeles, 17.0 and 13.3; Pasadena, 13.9 and 24.8; and San Bernardino, 9.1 and 17.4.

In short, the death-rate of California is evidently swollen considerably by deaths occurring here from disease contracted elsewhere. For where tuberculosis is most prevalent a large proportion of the victims are residents of very short standing. Moreover, infection from these newly arrived consumptives accounts for some of the deaths among native Californians and old-time residents.

Sex.—Of 30,985 decedents in 1909, the males were 19,324, or 62.4 per cent, and the females 11,661, or 37.6 per cent, while among the

31,287 in 1908, 19,469, or 62.2 per cent, were male and 11,818, or 37.8 per cent, female. Each year the per cent male was highest for Northern California and next for Central California.

The per cents male were above the general averages for deaths from suicide, other violence, typhoid fever, pulmonary tuberculosis, and heart disease, etc. The female decedents outnumbered the males each year only for cancer and whooping-cough.

Race.—In 1909 the white decedents numbered 29,323, or 94.6 per cent; the Chinese, 694; the Japanese, 450; the negroes, 388; and the Indians, 130. The figures for 1908 were: White, 29,673, or 94.8 per cent; Chinese, 697; Japanese, 431; negro, 360; and Indian, 126. The per cent white was highest each year for Southern California.

The per cents white were very high for deaths from smallpox, scarlet fever, diphtheria and croup, measles, cancer, diseases of the nervous and circulatory systems, Bright's disease, and early infancy.

The proportion of Caucasians among all decedents was low each year for typhoid fever, which causes many deaths of Japanese, and for tuberculosis, which kills many Chinese and negroes.

Nativity.—Of the white decedents in 1909, 10,763, or 36.7 per cent, were born in other states; 9,457, or 32.2 per cent, were foreign born; 8,231, or 28.1 per cent were born in California; and 872, or 3.0 per cent were of unknown nativity. In 1908 those born in other states were 10,662, or 35.9 per cent; the foreign born were 9,458, or 31.9 per cent; those born in California were 8,575, or 28.9 per cent; and the unknown were 978, or 3.3 per cent.

The proportion born elsewhere in the United States is very high for Southern California, especially Los Angeles. The proportion foreign born is notably great only for Central California, especially for San Francisco and the other bay counties. The proportion of native Californians among decedents was greatest each year in Central California, and next in Northern California.

The proportion of native Californians is especially great for deaths from early infancy, diarrhea and enteritis, whooping-cough, measles, scarlet fever, diphtheria and croup, meningitis, tuberculosis other than pulmonary, typhoid fever, childbirth, and pneumonia.

The per cents born in other states were above the general averages each year for deaths from diseases of the nervous system other than meningitis, Bright's disease, diseases of the circulatory system, cancer, malarial fever, pulmonary tuberculosis, diseases of the digestive system other than diarrhea, and general diseases other than tuberculosis and cancer (*i. e.* diabetes, alcoholism, etc.).

The proportion foreign born were above the general averages for deaths from cancer, heart disease, etc., pneumonia and other diseases of the respiratory system, Bright's disease, diseases of the nervous and digestive systems except meningitis and diarrhea, respectively, and general diseases except tuberculosis and cancer (diabetes, alcoholism, etc.).

Age Periods.—In 1909 there were 16,281 deaths at the productive ages, 15 to 64 years; 8,904 at the period of old age, 65 years and over; 3,480 in infancy, or the first year of life; 1,313 in childhood, 1 to 4 years; 928 in youth, 5 to 14 years; and only 79 of unknown age. For 1908 the figures were: 15 to 64 years, 16,486; 65 years and over, 8,603; under 1 year, 3,592; 1 to 4 years, 1,393; 5 to 14 years, 1,082; and unknown, 131. The per cent distribution of deaths for 1909 and 1908, respectively, was: Productive ages, 52.6 and 52.7; period of old age, 28.7 and 27.5; infancy, 11.2 and 11.5; childhood, 4.2 and 4.4; youth, 3.0 and 3.5; and age unknown, 0.3 and 0.4.

The per cent of deaths occurring at the productive ages was especially high each year for both San Francisco and Los Angeles counties. The proportion of deaths at the period of old age is particularly large only for the rural counties north of Tehachapi. On the other hand, the proportion of deaths in both infancy and childhood is notably great for the metropolitan area, comprising San Francisco and the other bay counties.

At the years from 15 to 64, large proportions of deaths occur from childbirth, suicide, tuberculosis of the lungs, typhoid fever, miscellaneous violence, general diseases (diabetes, alcoholism, etc.), cancer, diseases of the digestive system except diarrhea, malarial fever, and Bright's disease.

At 65 years and over, the per cents were high in 1909 and 1908 for deaths from influenza, miscellaneous causes (including "old age" or senility), diseases of the circulatory system (heart disease, etc.), pneumonia and other diseases of the respiratory system, diseases of the nervous system except meningitis, Bright's disease, cancer, and diarrhea of elderly people.

Under 1 year occur large proportions of deaths from early infancy and infantile diarrhea, whooping-cough, meningitis, measles, pneumonia and other diseases of the respiratory system, and tuberculosis other than pulmonary.

At 1 to 4 years the diseases especially fatal are measles, diphtheria and croup, whooping-cough, diarrhea and enteritis, meningitis, scarlet fever, tuberculosis of other organs than the lungs, pneumonia and other diseases of the respiratory system, and miscellaneous violence (accidental injuries, etc.).

At 5 to 14 years the diseases causing exceptionally large proportions of deaths are scarlet fever, diphtheria and croup, measles, meningitis, typhoid fever, tuberculosis other than pulmonary, diarrhea and other diseases of the digestive system, general diseases other than tuberculosis and cancer, and miscellaneous violence.

INTRODUCTION.

Sources of Information.—The death registration law of 1905 was enforced throughout California quite faithfully in 1909 and 1908. This law forbids the interment or other disposition of a body except by authority of the permit obtained by filing a satisfactory death certificate with the Local Registrar (or Subregistrar) of the district where the death occurred. The Local Registrars are the Health Officers of cities having freeholders' charters, the clerks in other cities and incorporated towns, and the county recorders for the unincorporated portions of counties, the recorders appointing subregistrars to receive certificates and issue permits at points remote from county seats.

The original death certificates thus filed with Local Registrars (or Subregistrars) each month are required by law to be forwarded to the

State Registrar on or before the fifth day of the following month, the date having been changed from the eighth to the fifth by an amendment enacted in 1907. In the State Bureau of Vital Statistics the statistical data on the death certificates are transferred to tabulation cards such as are used in the Federal Census Bureau by means of a keyboard punching machine. The tabulation cards are punched to show for each death the following particulars: Sex, color (or race), month of death, age, conjugal (or marital) condition, birthplace, birthplace of father, birthplace of mother (by countries for the foreign born), occupation, cause of death, and length of residence in California. Occupations and causes of death are necessarily designated by index numbers, the key for occupations being like that used in the Vital Statistics Division of the Federal Census Bureau, and the key for deaths agreeing with the International Classification of Causes of Death. Each tabulation card also shows, by certain holes punched according to a definite system, the registration district (the county and the freeholders' charter city or other city or town), as well as the local registered number of the certificate to which the card corresponds.

Although the tabulation cards are meant to be sorted and counted by electrical tabulating devices such as are used in the Federal Census Bureau and other statistical offices, the cards in the California Bureau of Vital Statistics have so far been sorted and tabulated only by hand. On this account the tabulations have necessarily been limited to causes of death, and, in addition, to only sex, race, nativity (of white decedents), and age periods. Because of the lack of clerical assistance it has also been impossible to make these detailed tabulations for leading cities or individual counties, but only for certain geographic divisions. However, total deaths have been tabulated by causes for freeholders' charter cities in both 1909 and 1908 as well as for all counties in 1909 alone.

Geographic Divisions.—For convenience in tabulation the fifty-eight counties of California have been grouped in three main and eight minor geographic divisions. The three main divisions are Northern, Central, and Southern California. The line between Northern and Central California has been drawn at the southern boundary of Placer, Sutter, Colusa, Napa, and Sonoma counties, or the northern boundary of El Dorado, Sacramento, Yolo, and Marin counties. This dividing line extends irregularly from Lake Tahoe to the Pacific Ocean somewhat north of San Francisco Bay. The line between Central and Southern California has been drawn at the southern boundary of Inyo, Kern, and San Luis Obispo counties, or the northern boundary of San Bernardino, Los Angeles, Ventura, and Santa Barbara counties. This line is familiarly located by Tehachapi pass.

In both Northern and Central California, divisions have been made between the coast and the interior counties. In each case the coast counties include some counties not actually contiguous to the Pacific Ocean but yet on the westward side of the Coast Range. Moreover, in Central California, San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo) have been made minor geographic divisions. Similarly, in Southern California, Los Angeles has been made a minor geographic division in contrast with the other seven counties south of Tehachapi.

The three main and eight minor geographic divisions are as follows, the counties in each group being arranged alphabetically for the sake of ready reference:

TABLE 1.—*Main and Minor Geographic Divisions of California, with Counties Included in Each.*

NORTHERN CALIFORNIA.

Coast Counties.

Del Norte
Humboldt
Lake
Mendocino
Napa
Sonoma
Trinity

Interior Counties.

Butte
Colusa
Glenn
Lassen
Modoc
Nevada
Placer
Plumas
Shasta
Sierra
Siskiyou
Sutter
Tehama
Yuba

CENTRAL CALIFORNIA.

San Francisco.

(City and County.)

Other Bay Counties.

Alameda
Contra Costa
Marin
San Mateo

Coast Counties.

Monterey
San Benito
San Luis Obispo
Santa Clara
Santa Cruz

Interior Counties.

Alpine
Amador
Calaveras
El Dorado
Fresno
Inyo
Kern
Kings
Madera
Mariposa
Merced
Mono
Sacramento
San Joaquin
Solano
Stanislaus
Tulare
Tuolumne
Yolo

SOUTHERN CALIFORNIA.

Los Angeles.

Other Counties.

Imperial
Orange
Riverside
San Bernardino
San Diego
Santa Barbara
Ventura

DEATH TOTALS AND DECREASE.

The State.—The following table gives the death total for California, in comparison with the birth and marriage totals, for the four calendar years covered by the operations of the present registration law:

TABLE 2.—*Death Total Compared with Birth and Marriage Totals, for California: 1906 to 1909.*

	1909.	1908.	1907.	1906.
Deaths	30,985	31,287	31,095	29,303
Births	30,882	28,073	24,674	20,974
Marriages	22,917	21,739	23,005	21,317

It appears from this table that, while the birth total has risen steadily since 1906 through continued improvement in the completeness of registration and while the marriage total has fluctuated variably, having risen and fallen and then risen again, the death total for California after increasing from 1906 to 1908 (especially between 1906 and 1907) decreased sharply in 1909.

The death total, exclusive of stillbirths, rose from 29,303 in 1906 to 31,095 in 1907 and to 31,287 (the maximum) in 1908 and then fell to 30,985 in 1909.

The increase of deaths in 1906 to 1907 was 1,792, or 6.1 per cent, and in 1907 to 1908 was 192, or 0.6 per cent. The decrease that followed in 1908 to 1909 was 302, or 1.0 per cent, so that the death total for 1909 is below that of 1907 by no less than 110 for the State as a whole.

Geographic Divisions.—The following table gives the death totals for the several geographic divisions in the four years, 1906 to 1909, inclusive, as well as the number and per cent of decrease for 1908 to 1909:

TABLE 3.—*Death Totals, with Decrease 1908 to 1909, for Geographic Divisions: 1906 to 1909*

GEOGRAPHIC DIVISION.	Deaths.				Decrease: 1908 to 1909.	
	1909.	1908.	1907.	1906.	Number.	Per Cent.
THE STATE	30,985	31,287	31,095	29,303	302	1.0
Northern California	3,946	4,148	3,944	3,528	202	4.8
Coast counties	1,913	1,943	1,761	1,614	30	1.5
Interior counties	2,033	2,205	2,183	1,914	172	7.8
Central California	17,599	18,145	18,063	17,692	546	3.0
San Francisco	6,150	6,260	6,575	7,151	110	1.8
Other bay counties	4,108	4,265	4,426	3,911	157	3.7
Coast counties	2,167	2,131	2,121	2,223	36*	1.7*
Interior counties	5,174	5,489	4,941	4,407	315	5.7
Southern California	9,440	8,994	9,088	8,083	446*	5.0*
Los Angeles	6,392	6,011	6,346	5,471	381*	6.3*
Other counties	3,048	2,983	2,742	2,612	65*	2.2*
Northern and Central California	21,545	22,293	22,007	21,220	748	3.4
Coast counties	14,338	14,599	14,883	14,899	261	1.8
Interior counties	7,207	7,694	7,124	6,321	487	6.3
Metropolitan area	10,258	10,525	11,001	11,062	267	2.5
Rural counties	11,287	11,768	11,006	10,158	481	4.1

*Increase.

This table shows that the decrease of deaths in 1908 to 1909 was confined to Northern and Central California (except the coast counties of Central California). Increases appear not only for Los Angeles and the rest of Southern California, but also for the coast counties of Central California (Monterey, San Benito, San Luis Obispo, Santa Clara, and Santa Cruz).

The increase of deaths in 1907 to 1908, however, appeared only in the counties north of Tehachapi exclusive of San Francisco and the other bay counties (or the whole metropolitan area) and in the counties south of Tehachapi other than Los Angeles. There were decreases in 1907 to 1908 for San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), north of Tehachapi, as well as for Los Angeles in Southern California.

It may be added that the death total for 1909 was below that for 1907 only for San Francisco and the other bay counties, comprising the metropolitan area, and for the interior counties of Northern California. In the remaining geographic divisions more deaths were reported for 1909 than for 1907.

The death total for Southern California was 9,440 in 1909 as compared with 8,994 in 1908, an increase of 446, or 5.0 per cent, the rate of gain being no less than 6.3 for Los Angeles alone against 2.2 for the other counties. The total for Southern California in 1907 was 9,088, or 94 above that for the succeeding year.

For Northern and Central California together, the deaths in 1909 totaled 21,545 against 22,293 in 1909, a decrease of 748, or 3.4 per cent. The per cent of decrease was 4.8 for Northern California and 3.0 for Central California. The total for the counties north of Tehachapi in 1907 was 22,007, or 286 below that for the year following.

The total for the metropolitan area was 10,258 in 1909 as compared with 10,525 in 1908 and 11,001 in 1907, the decrease of 476, or 4.3 per cent, in 1907 to 1908, being followed by another decrease of 267, or 2.5 per cent, in 1908 to 1909. For the rural counties north of Tehachapi, however, the death total was 11,287 in 1909 against 11,768 in 1908 and 11,006 in 1907, the increase in 1907 to 1908 of 762, or 6.9 per cent, being followed by a decrease in 1908 to 1909 of 481, or 4.1 per cent.

The deaths in San Francisco totaled 6,150 for 1909 as compared with 6,260 for 1908 and 6,575 for 1907, the decrease of 315, or 4.8 per cent, in 1907 to 1908 being followed by a smaller decrease of 110, or 1.8 per cent, in 1908 to 1909. For the other bay counties, likewise, the deaths in 1909 were only 4,108 against 4,265 in 1908 and 4,426 in 1907, the decrease in 1907 to 1908 of 161, or 3.6 per cent, being followed by a similar decrease in 1908 to 1909 of 157, or 3.7 per cent.

Counties.—The table on the following page gives the decrease (or increase) of deaths for each county, as well as the per cent of decrease for those showing decreases like that appearing for the State as a whole.

TABLE 4.—*Decrease of Deaths, for Counties: 1908 to 1909.*

COUNTY.	Deaths.		Increase.	Decrease.	Per Cent of Decrease.
	1909	1908.			
California	30,985	31,287	--------	302	1.0
Alameda	3,210	3,305	--------	95	2.9
Alpine	--------	4	--------	4	100.0
Amador	116	102	14	--------	--------
Butte	435	473	--------	38	8.0
Calaveras	128	135	--------	7	5.2
Colusa	80	83	--------	3	3.6
Contra Costa	334	399	--------	65	16.3
Del Norte	31	38	--------	7	18.4
El Dorado	125	132	--------	7	5.3
Fresno	806	970	--------	164	16.9
Glenn	28	50	--------	22	44.0
Humboldt	334	362	--------	28	7.7
Imperial	40	75	--------	35	46.7
Inyo	36	43	--------	7	16.3
Kern	383	367	16	--------	--------
Kings	161	179	--------	18	10.1
Lake	70	75	--------	5	6.7
Lassen	43	28	15	--------	--------
Los Angeles	6,392	6,011	381	--------	--------
Madera	73	60	13	--------	--------
Marin	308	276	32	--------	--------
Mariposa	48	42	6	--------	--------
Mendocino	317	283	34	--------	--------
Merced	116	135	--------	19	14.1
Modoc	33	50	--------	17	34.0
Mono	7	6	1	--------	--------
Monterey	316	293	23	--------	--------
Napa	518	489	29	--------	--------
Nevada	229	256	--------	27	10.5
Orange	355	327	28	--------	--------
Placer	185	172	13	--------	--------
Plumas	79	105	--------	26	24.8
Riverside	435	367	68	--------	--------
Sacramento	1,100	1,165	--------	65	5.6
San Benito	77	94	--------	17	18.1
San Bernardino	902	839	63	--------	--------
San Diego	751	846	--------	95	11.2
San Francisco	6,150	6,260	--------	110	1.8
San Joaquin	911	941	--------	30	3.2
San Luis Obispo	199	183	16	--------	--------
San Mateo	256	285	--------	29	10.2
Santa Barbara	347	322	25	--------	--------
Santa Clara	1,190	1,213	--------	23	1.9
Santa Cruz	385	348	37	--------	--------
Shasta	310	334	--------	24	7.2
Sierra	30	56	--------	26	46.4
Siskiyou	192	196	--------	4	2.0
Solano	348	367	--------	19	5.2
Sonoma	611	649	--------	38	5.9
Stanislaus	197	215	--------	18	8.4
Sutter	52	74	--------	22	29.7
Tehama	188	158	30	--------	--------
Trinity	32	47	--------	15	31.9
Tulare	291	318	--------	27	8.5
Tuolumne	134	138	--------	4	2.9
Ventura	218	207	11	--------	--------
Yolo	194	170	24	--------	--------
Yuba	149	170	--------	21	12.4

The county table shows that of the fifty-eight counties in California only twenty-one reported more deaths in 1909 than in 1908, these being as follows: Amador, Kern, Lassen, Madera, Marin, Mariposa, Mendocino, Mono, Monterey, Napa, Placer, San Luis Obispo, Santa Cruz, Tehama, and Yolo, north of Tehachapi; and Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, and Ventura, in Southern California.

No less than thirty-seven counties reported fewer deaths in 1909 than in 1908.

The decreases were relatively greatest for certain small counties as follows: Alpine, Imperial, Sierra, Glenn, Modoc, Trinity, Sutter, Plumas, Del Norte, and San Benito. The per cent of decrease in deaths was also notably great for the following counties: Fresno, 16.9; Contra Costa and Inyo, each, 16.3: Merced, 14.1; Yuba, 12.4; San Diego, 11.2; Nevada, 10.5; San Mateo, 10.2; and Kings, 10.1. Other counties showing decreases were as follows, in descending order: Tulare, Stanislaus, Butte, Humboldt, Shasta, Lake, Sonoma, Sacramento, El Dorado, Calaveras, Solano, Colusa, San Joaquin, Alameda, Tuolumne, Siskiyou, Santa Clara, and San Francisco.

Cities.—The table below gives figures for cities similar to those already presented for counties. To allow cross-reference to birth totals, which are available only for freeholders' charter cities, city figures on deaths are limited throughout this discussion to cities of the class named, numbering twenty-six in 1909 and twenty-four in 1908. These cities are arranged in the table according to geographic location, and totals are shown not only for chartered cities as a class, but also for the rest of the State as a whole.

TABLE 5.—*Decrease of Deaths, for Individual Cities and Rest of State: 1908 to 1909.*

CITY.	Deaths.		Increase.	Decrease.	Per Cent of Decrease.
	1909.	1908.			
CALIFORNIA	30,985	31,287	---------	302	1.0
Freeholders' charter cities	17,472*	17,480†	---------	8	‡
Northern California.					
Eureka	180	198	---------	18	9.1
Napa	70	77	---------	7	9.1
Santa Rosa	105	107	---------	2	1.9
Grass Valley	58	88	---------	30	34.1
Central California.					
San Francisco	6,150	6,260	---------	110	1.8
Alameda	309	345	---------	36	1.0
Berkeley	405	448	---------	43	1.0
Oakland	1,642	1,646	---------	4	0.2
Richmond	92	---------	92	---------	--------
Salinas	68	63	5	---------	--------
Palo Alto	48	---------	48	---------	--------
San Jose	386	389	---------	3	0.7
Santa Cruz	190	167	23	---------	--------
Watsonville	103	103	---------	---------	--------
Fresno	288	365	---------	77	21.1
Sacramento	698	755	---------	57	7.5
Stockton	455	481	---------	26	5.4
Vallejo	172	192	---------	20	1.0
Southern California.					
Los Angeles	4,013	3,752	261	---------	--------
Long Beach	235	219	16	---------	--------
Pasadena	410	373	33	---------	--------
Santa Monica	103	110	---------	7	6.4
Riverside	238	204	34	---------	--------
San Bernardino	250	262	---------	8	3.1
San Diego	601	701	---------	100	14.3
Santa Barbara	203	175	28	---------	--------
Rest of State	13,513	13,807	---------	294	2.1

*26 Freeholders' charter cities.

†24 Freeholders' charter cities.

‡Less than one tenth of 1 per cent.

It appears from this table that the death total for chartered cities as a class was 17,472 in 1909 as compared with 17,480 in 1908, a decrease of 8 despite the addition of two new cities (Palo Alto with 48 deaths and Richmond with 92). The total for the twenty-four cities shown for both years was 17,332 in 1909 against 17,480 in 1908, a decrease of 148, or 0.8 per cent.

The deaths in the State outside chartered cities as a class (numbering twenty-six in 1909 and twenty-four in 1908) totaled 13,513 in 1909 against 13,807 in 1908, a loss of 294, or 2.1 per cent. Exclusive only of the same twenty-four cities shown for both years, the death total for rural districts was 13,653 in 1909 as compared with 13,807 in 1908, a loss of only 154, or 1.1 per cent.

Of the twenty-four chartered cities shown for both 1909 and 1908, only seven reported more deaths in 1909 than in 1908, one showed no change, and as many as sixteen reported fewer deaths in 1909 than in 1908.

The seven cities showing an increase of deaths included only Salinas and Santa Cruz, north of Tehachapi, and, south of Tehachapi, Los Angeles, Long Beach, Pasadena, Riverside, and Santa Barbara. Watsonville, showing no change, lies north of Tehachapi like its neighbors, Salinas and Santa Cruz.

In addition to the exceptionally large decrease shown for Grass Valley, the most notable decreases in death totals were as follows: Fresno, 21.1 per cent; San Diego, 14.3; Eureka and Napa, each 9.1; Sacramento, 7.5; Santa Monica, 6.4; and Stockton, 5.4. The other cities showing decreases were as follows, in descending order of per cents: San Bernardino, Santa Rosa, San Francisco, Alameda, Berkeley, Vallejo, San Jose, and Oakland.

It may be noted that the 17,472 deaths in the twenty-six chartered cities in 1909 form 56.4 per cent of the State total, 30,985, and that the 17,480 deaths in the twenty-four such cities in 1908 form 55.9 per cent of the State total, 31,287.

DEATH-RATES.

Population Estimates.—With the publication of the Federal Census results for 1910, population estimates for preceding years can be revised with strict accuracy on the basis of county and city totals for June 1, 1900, and April 15, 1910, the estimates being made for the sake of uniformity as of July 1, or the middle of each year. The estimated midyear population for both 1908 and 1909 has been calculated on the assumption that the numerical increase (or decrease) was the same each month between June 1, 1900, and April 15, 1910. The average monthly increase is obtained by dividing the increase for the whole decade by 118.5 (the number of months between June 1, 1900, and April 15, 1910), and the total increase to July 1, 1908, is then got by multiplying by 97 (the number of months between June 1, 1900, and July 1, 1908), the increase to July 1, 1909, being obtained similarly by multiplying by 109 (the number of months between June 1, 1900, and July 1, 1909). The estimated midyear population for 1908 and 1909 is found, finally, by adding to the population enumerated June 1, 1900, the estimated increase to July 1, 1908 or 1909, as the case may be.*

*The estimated midyear population for Alameda County, for instance, was obtained as follows:

Population enumerated April 15, 1910	246,131
Population enumerated June 1, 1900	130,197
Increase, June 1, 1900, to April 15, 1910 (118.5 months)	115,934
Increase, June 1, 1900, to July 1, 1909 (× 109 ÷ 118.5)	106,640
Increase, June 1, 1900, to July 1, 1908 (× 97 ÷ 118.5)	94,900
Estimated midyear population, 1909	236,837
Estimated midyear population, 1908	225,097

Similarly, the estimated midyear population for Alameda city was obtained thus:

Population enumerated April 15, 1910	23,383
Population enumerated June 1, 1900	16,464
Increase, June 1, 1900, to April 15, 1910, (118.5 months)	6,919
Increase, June 1, 1900, to July 1, 1909 (× 109 ÷ 118.5)	6,364
Increase, June 1, 1900, to July 1, 1908 (× 97 ÷ 118.5)	5.663
Estimated midyear population, 1909	22,828
Estimated midyear population, 1908	22,127

Geographic Divisions.—For convenience in tabulation the fifty-eight counties of California have been grouped in three main and eight minor geographic divisions, shown in the table which follows, the counties in each group being arranged alphabetically for the sake of ready reference. Death-rates are also shown for the metropolitan area, comprising San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), in contrast with the rural counties of Northern and Central California.

The following table gives the estimated midyear population, deaths, and death-rate per 1,000 population for the several counties arranged by geographic divisions in both 1909 and 1908:

TABLE 6.—*Estimated Midyear Population, Deaths, and Death-rate per 1,000 Population, for Counties arranged Geographically: 1909 and 1908.*

COUNTY.	Estimated Midyear Population.		Deaths.		Death-rate per 1,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	2,306,001	2,215,615	30,985	31,287	13.4	14.1
Northern California	295,108	290,858	3,946	4,148	13.4	14.3
Coast counties	135,468	133,247	1,913	1,943	14.1	14.6
Del Norte	2,416	2,415	31	38	12.8	15.7
Humboldt	33,316	32,632	334	362	10.0	11.1
Lake	5,565	5,615	70	75	12.6	13.4
Mendocino	23,652	23,301	317	283	13.4	12.1
Napa	19,532	19,192	518	489	26.5	25.5
Sonoma	47,599	46,595	611	649	12.8	13.9
Trinity	3,388	3,497	32	47	9.4	13.4
Interior counties	159,640	157,611	2,033	2,205	12.7	14.0
Butte	26,485	25,453	435	473	16.4	18.6
Colusa	7,702	7,665	80	83	10.4	10.8
Glenn	7,010	6,805	28	50	4.0	7.3
Lassen	4,779	4,749	43	28	9.0	5.9
Modoc	6,102	5,989	33	50	5.4	8.3
Nevada	15,182	15,469	229	256	15.1	16.5
Placer	18,041	17,792	185	172	10.3	9.7
Plumas	5,211	5,150	79	105	15.2	20.4
Shasta	18,792	18,629	310	334	16.5	17.9
Sierra	4,092	4,083	30	56	7.3	13.7
Siskiyou	18,654	18,467	192	196	10.3	10.6
Sutter	6,293	6,248	52	74	8.3	11.8
Tehama	11,369	11,328	188	158	16.5	13.9
Yuba	9,928	9,784	149	170	15.0	17.4
Central California	1,295,427	1,254,567	17,599	18,145	13.6	14.5
San Francisco	410,969	403,462	6,150	6,260	15.0	15.5
Other bay counties	317,200	301,660	4,108	4,265	13.0	14.1
Alameda	236,837	225,097	3,210	3,305	13.6	14.7
Contra Costa	30,581	29,201	334	399	10.9	13.7
Marin	24,359	23,406	308	276	12.6	11.8
San Mateo	25,423	23,956	256	285	10.1	11.9
Coast counties	158,293	154,559	2,167	2,131	13.7	13.8
Monterey	23,764	23,281	316	293	13.3	12.6
San Benito	7,928	7,786	77	94	9.7	12.1
San Luis Obispo	19,163	18,885	199	183	10.4	9.7
Santa Clara	81,669	79,307	1,190	1,213	14.6	15.3
Santa Cruz	25,769	25,300	385	348	14.9	13.8
Interior counties	408,965	394,886	5,174	5,489	12.7	13.9
Alpine	325	345	---------	4	-------	11.6
Amador	9,249	9,454	116	102	12.5	10.8
Calaveras	9,334	9,539	128	135	13.7	14.2
El Dorado	7,612	7,763	125	132	16.4	17.0
Fresno	72,627	68,800	806	970	11.1	14.1
Inyo	6,766	6,503	36	43	5.3	6.6
Kern	36,013	33,862	383	367	10.6	10.8
Kings	15,720	15,076	161	179	10.2	11.9
Madera	8,207	8,004	73	60	8.9	7.5
Mariposa	4,017	4,095	48	42	11.9	10.3
Merced	14,672	14,072	116	135	7.9	9.6
Mono	2,052	2,065	7	6	3.4	2.9
Sacramento	66,051	63,834	1,100	1,165	16.7	18.3
San Joaquin	49,506	47,959	911	941	18.4	19.6
Solano	27,285	26,939	348	367	12.8	13.6
Stanislaus	21,482	20,168	197	215	9.2	10.7
Tulare	34,072	32,344	291	318	8.5	9.8
Tuolumne	10,074	10,194	134	138	13.3	13.5
Yolo	13,901	13,870	194	170	14.0	12.3
Southern California	715,466	670,190	9,440	8,994	13.2	13.4
Los Angeles	477,368	443,562	6,392	6,011	13.4	13.6
Other counties	238,098	226,628	3,048	2,983	12.8	13.2
Imperial	13,039	12,302	40	75	3.1	6.1
Orange	33,254	31,762	355	327	10.7	10.3
Riverside	33,349	31,648	435	367	13.0	11.6
San Bernardino	54,399	51,485	902	839	16.6	16.3
San Diego	58,997	55,666	751	846	12.7	15.2
Santa Barbara	27,032	26,141	347	322	12.8	12.3
Ventura	18,028	17,624	218	207	12.1	11.7
Northern and Central California	1,590,535	1,545,425	21,545	22,293	13.5	14.4
Coast counties	1,021,930	992,928	14,338	14,599	14.0	14.7
Interior counties	568,605	552,497	7,207	7,694	12.7	13.9
Metropolitan area	728,169	705,122	10,258	10,525	14.1	14.9
Rural counties	862,366	840,303	11,287	11,768	13.1	14.0

For an estimated midyear population of 2,306,001 in 1909, the 30,985 deaths give a death-rate of 13.4 per 1,000 inhabitants, while for an estimated midyear population of 2,215,615 in 1908, the 31,287 deaths represent a rate of 14.1 per 1,000 population.

It may be added that the 31,095 deaths in 1907 give a rate of 14.6 for an estimated midyear population of 2,125,240, and that the 29,303 deaths in 1906 give a rate of 14.4 for an estimated midyear population of 2,034,861.

The death-rates in 1909 and 1908 were somewhat higher for the counties north of Tehachapi, 13.5 and 14.4, respectively, than for those to the south, 13.2 and 13.4. The rates were also slightly higher each year for Central California, 13.6 and 14.5, than for Northern California, 13.4 and 14.3.

In both 1909 and 1908 the death-rates were much higher for the coast counties of Northern and Central California, 14.0 and 14.7, than for the interior counties north of Tehachapi, 12.7 and 13.9.

Each year, moreover, the death-rates were higher for the metropolitan area (14.1 and 14.9) than for the rural counties of Northern and Central California (13.1 and 14.0); for San Francisco the metropolis (15.0 and 15.5) than for the adjoining bay counties (13.0 and 14.1); and for Los Angeles (13.4 and 13.6) than for the rest of Southern California (12.8 and 13.2).

Counties.—Among the individual counties, Napa shows the highest death-rates, 26.5 for 1909 and 25.5 for 1908, this unenviable prominence being explained, however, by the many deaths of aged persons occurring at the Napa State Hospital and the Veterans' Home of California located in this county of relatively small population. The death-rates in 1909 and 1908, respectively, were next highest for the following counties: San Joaquin, 18.4 and 19.6; Sacramento, 16.7 and 18.3; San Bernardino, 16.6 and 16.3; Shasta, 16.5 and 17.9; Butte, 16.4 and 18.6; El Dorado, 16.4 and 17.0; Plumas, 15.2 and 20.4; Nevada, 15.1 and 16.5; Yuba, 15.0 and 17.4; San Francisco, 15.0 and 15.5; Santa Clara, 14.6 and 15.3; and Alameda, 13.6 and 14.7. These are the counties with death-rates above the State averages of 13.4 for 1909 and 14.1 for 1908. The death-rate also equaled or exceeded the general average for 1909 alone (13.4) in each of the following additional counties: Tehama, 16.5; Santa Cruz, 14.9; Yolo, 14.0; Los Angeles, 13.6; and Mendocino, 13.4. Similarly, the death-rate was above the State average for 1908 alone (14.1) in other counties as follows: Del Norte, 15.7; San Diego, 15.2; Calaveras, 14.2; and Fresno, 14.1.

Cities.—Corresponding figures for chartered cities and the rest of California appear in Table 7. Death-rates are given for only twenty-three cities in 1909 and twenty-one in 1908 (instead of for twenty-six and twenty-four, respectively, as in other tables), because the population of Grass Valley, Salinas, and Watsonville in 1910 had not been announced by the Federal Census Bureau at the time of going to press of this Biennial Report, so that it was impossible to estimate the population of these three small cities by the same safe method employed for the other cities shown in the table.

TABLE 7.—*Estimated Midyear Population, Deaths, and Death-rate per 1,000 Population, for Individual Cities and Rest of State: 1909 and 1908.*

CITY.	Estimated Midyear Population.		Deaths.		Death-rate per 1,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908.
CALIFORNIA	2,306,001	2,215,615	30,985	31,287	13.4	14.1
Freeholders' charter cities*	1,221,914	1,155,601	17,243	17,226	14.1	14.9
Northern California.						
Eureka	11,483	11,025	180	198	15.7	18.0
Napa	5,650	5,473	70	77	12.4	14.1
Santa Rosa	7,725	7,609	105	107	13.6	14.1
Grass Valley†	----------	----------	58	88	------	------
Central California.						
San Francisco	410,969	403,462	6,150	6,260	15.0	15.5
Alameda	22,828	22,127	309	345	13.5	15.6
Berkeley	38,252	35,495	405	448	10.6	12.6
Oakland	143,503	135,076	1,642	1,646	11.4	12.2
Richmond	6,575	----------	92	--------	14.0	------
Salinas†	----------	----------	68	63	------	------
Palo Alto	4,258	----------	48	--------	11.3	------
San Jose	28,349	27,595	386	389	13.6	14.1
Santa Cruz	10,706	10,150	190	167	17.7	16.5
Watsonville†	----------	----------	103	103	------	------
Fresno	23,896	22,638	288	365	12.1	16.1
Sacramento	43,460	41,899	698	755	16.1	18.0
Stockton	22,792	22,210	455	481	20.0	21.7
Vallejo	11,069	10,728	172	192	15.5	17.9
Southern California.						
Los Angeles	301,824	279,878	4,013	3,752	13.3	13.4
Long Beach	16,562	14,986	235	219	14.2	14.6
Pasadena	28,594	26,449	410	373	14.3	14.1
Santa Monica	7,463	6,978	103	110	13.8	15.8
Riverside	14,632	13,899	238	204	16.3	14.7
San Bernardino	12,248	11,576	250	262	20.4	22.6
San Diego	37,824	35,609	601	701	15.9	19.7
Santa Barbara	11,252	10,739	203	175	18.0	16.3
Rest of State‡	1,084,087	1,060,014	13,790	14,061	12.7	13.3

*Figures are for 23 freeholders' charter cities in both 1909 and 1908.

†Included with "Rest of State," proper estimates not being available because of non-publication of 1910 census population.

‡Includes figures for 3 chartered cities in both 1909 and 1908.

ADDITIONAL NOTE.—Population estimates furnished by the Federal Census Bureau agree with the estimates in the above table, varying by only 1 or 2 in a few cases, except for five cities (Berkeley, Oakland, Fresno, Los Angeles, and Pasadena), for which the estimates of the Census Bureau include corrections for territory annexed between 1900 and 1910. The following table gives revised figures for these five cities, together with changes made by the corrections in the totals for "Freeholders' charter cities" and for "Rest of State."

CITY.	Estimated Midyear Population.		Deaths.		Death-rate per 1,000 Population.	
	1909	1908	1909.	1908.	1909.	1908.
Freeholders' charter cities	1,182,389	1,121,315	17,243	17,226	14.6	15.4
Central California.						
Berkeley	38,264	35,359	405	448	10.6	12.7
Oakland	115,908	110,519	1,642	1,646	14.2	14.9
Fresno	20,860	19,936	288	365	13.8	18.3
Southern California.						
Los Angeles	292,566	272,189	4,013	3,752	13.7	13.8
Pasadena	28,946	27,247	410	373	14.2	13.7
Rest of State	1,123,612	1,094,300	13,742	14,061	12.2	12.8

The death-rate per 1,000 inhabitants is somewhat greater for the class of freeholders' charter cities, 14.1 in 1909 and 14.9 in 1908, than for the State outside such cities, 12.7 and 13.3, respectively.

With corrections of population estimates to cover boundary changes in five cities, the death-rates for chartered cities in 1909 and 1908, respectively, are 14.6 and 15.4, against 12.2 and 12.8 for the rest of the State.

The death-rates were above the city averages of 14.1 and 14.9 in 1909 and 1908, respectively, for the following cities: San Bernardino, 20.4 and 22.6; Stockton, 20.0 and 21.7; Santa Barbara, 18.0 and 16.4; Santa Cruz, 17.7 and 16.5; Sacramento, 16.1 and 18.0; San Diego, 15.9 and 19.7; Eureka, 15.7 and 18.0; Vallejo, 15.5 and 17.9; and San Francisco, 15.0 and 15.5. The death-rate also exceeded the city average of 14.1 in 1909 alone for Riverside (16.3), Pasadena (14.3),* and Long Beach (14.2). Similarly, the death-rate surpassed the average of 14.9 for cities in 1908 only for Fresno (16.1), Santa Monica (15.8), and Alameda (15.6).

On the other hand, the death-rates were remarkably low each year for certain cities, as follows: Berkeley, 10.6 and 12.6 in 1909 and 1908, respectively: Oakland, 11.4 and 12.2 (or 14.2 and 14.9 corrected for boundary charges); Napa, 12.4 and 14.1; Los Angeles, 13.3 and 13.4 (or 13.7 and 13.8, revised for annexations); and San Jose and Santa Rosa, each 13.6 and 14.1.

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*With allowance for boundary changes, however, the death-rate for Pasadena (14.2) falls before the revised rate for chartered cities (14.6).

CAUSES OF DEATH.

The State.—The following table gives the number of deaths in California from certain principal causes, as well as the proportion per 1,000 total deaths and also the death-rate per 100,000 estimated midyear population (2,306,001 in 1909, and 2,215,615 in 1908):

TABLE 8.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, and Death-rate per 100,000, for California: 1908 and 1909.*

CAUSE OF DEATH.	Deaths.		Proportion per 1,000 Total Deaths.		Death-rate per 100,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908.
ALL CAUSES	30,985	31,287	1,000.0	1,000.0	1,343.7	1,412.1
Typhoid fever	461	540	14.9	17.3	20.0	24.4
Malarial fever	112	80	3.6	2.6	4.9	3.6
Smallpox	6	9	0.2	0.3	0.3	0.4
Measles	119	101	3.8	3.2	5.2	4.6
Scarlet fever	69	104	2.2	3.3	3.0	4.7
Whooping-cough	217	149	7.0	4.8	9.4	6.7
Diphtheria and croup	248	391	8.0	12.5	10.8	17.6
Influenza	82	125	2.6	4.0	3.6	5.6
Plague	1	5	*	0.2	0.1	0.2
Other epidemic diseases	108	126	3.5	4.0	4.7	5.7
Tuberculosis of lungs	4,061	3,945	131.0	126.1	176.1	178.1
Tuberculosis of other organs	612	620	19.8	19.8	26.5	28.0
Cancer	1,945	1,737	62.8	55.5	84.3	78.4
Other general diseases	1,177	1,186	38.0	37.9	51.0	53.5
Meningitis	398	571	12.8	18.2	17.3	25.8
Other diseases of nervous system	2,479	2,422	80.0	77.4	107.5	109.3
Diseases of circulatory system	4,966	4,540	160.3	145.1	215.3	204.9
Pneumonia and broncho-pneumonia	2,081	2,421	67.2	77.4	90.2	109.3
Other diseases of respiratory system	842	861	27.2	27.5	36.5	38.9
Diarrhea and enteritis, under 2 years	966	922	31.2	29.5	41.9	41.6
Diarrhea and enteritis, 2 years and over	270	243	8.7	7.8	11.7	11.0
Other diseases of digestive system	1,596	1,646	51.5	52.6	69.2	74.3
Bright's disease and nephritis	1,858	1.797	60.0	57.4	80.6	81.1
Childbirth	300	339	9.7	10.8	13.0	15.3
Diseases of early infancy	998	1,108	32.2	35.4	43.3	50.0
Suicide	702	757	22.7	24.2	30.4	34.2
Other violence	2,563	2,569	82.7	82.1	111.1	115.9
All other causes	1,748	1,973	56.4	63.1	75.8	89.0

*Less than one tenth of 1 per thousand.

Tuberculosis is the leading single cause of death in California. Each year over one seventh of all deaths in the State were due to this disease, the per cent being 15.1 for 1909 and 14.6 for 1908. In 1909, 13.1 per cent of all deaths were from tuberculosis of the lungs and 2.0 per cent from tuberculosis of other organs, while for 1908 the corresponding figures were 12.6 and 2.0, respectively. The death-rate per 100,000 population was 202.6 in 1909 and 206.1 in 1908 for all forms of tuberculosis.

Next to tuberculosis stand diseases of the circulatory system, heart disease, etc. For 1909, in fact, more deaths were reported from diseases of this class (4,966) than from various forms of tuberculosis (4,673), though in 1908 the total was greater for tuberculosis (4,565) than for heart disease, etc. (4,540). Diseases of the circulatory system caused 16.0 per cent of all deaths in 1909 and 14.5 per cent in 1908, while the death-rates per 100,000 population for this class of diseases were, respectively, 215.3 and 204.9.

Next after tuberculosis and diseases of the circulatory system come diseases of the respiratory system, pneumonia, etc. Diseases of this class caused 9.4 per cent of all deaths in 1909 and 10.5 per cent in 1908. Pneumonia and broncho-pneumonia caused 6.7 per cent of all deaths in 1909 and other diseases of the respiratory system caused 2.7 per cent. while for 1908 the per cent was 7.7 for pneumonia and 2.8 for other diseases. The death-rate per 100,000 population for all diseases of the respiratory system was 126.7 in 1909 and 148.2 in 1908.

For meningitis and other diseases of the nervous system, the per cent of all deaths was 9.3 in 1909 and 9.6 in 1908, while the death-rates per 100,000 population were 124.8 and 135.1, respectively. Meningitis alone caused 1.3 per cent of all deaths in 1909 and 1.8 per cent in 1908.

Diseases of the digestive system (diarrhea and enteritis, etc.) caused 9.1 and 9.0 per cent of all deaths in 1909 and 1908, respectively, and showed death-rates per 100,000 population of 122.8 and 126.9. The deaths from diarrhea and enteritis among children under 2 years of age were 3.1 per cent of the total deaths at all ages in 1909 and 3.0 per cent in 1908.

Violence other than suicide caused 8.3 per cent of all deaths in 1909 and 8.2 per cent in 1908, while suicides alone were 2.3 per cent of all deaths in 1909 and 2.4 per cent in 1908.

Cancers of various kinds caused 6.3 per cent of all deaths in 1909 and 5.6 per cent in 1908, while Bright's disease and nephritis caused 6.0 per cent of the deaths in 1909 and 5.7 per cent in 1908.

Of the epidemic diseases, typhoid fever was by far the most fatal each year, causing 461 deaths, or 1.5 per cent of all in 1909, and 540, or 1.7 per cent in 1908. Diphtheria and croup caused 248 deaths, or 0.8 per cent in 1909 and 391, or 1.3 per cent in 1908. For each of these diseases, fewer deaths were reported for 1909 than for 1908. In fact, the total for typhoid fever has been successively less for each year since 1906, the number of deaths having fallen from 657 in 1906 to 558 in 1907, 540 in 1908, and only 461 in 1909.

Deaths from other important epidemic diseases occurred as follows: Whooping-cough, 217 in 1909 against 149 in 1908; measles, 119 and 101 in 1909 and 1908, respectively; malarial fever, 112 and 80; influenza, 82 and 125; and scarlet fever, 69 and 104. There were 6 deaths from smallpox in 1909 against 9 in 1908, and there was a single death from plague in 1909 as compared with 5 in 1908.

Main Geographic Divisions.—The table which follows gives for the three main geographic divisions in 1909 and 1908 the number of deaths from certain principal causes, as well as the proportion from each cause per 1,000 total deaths. The death-rates per 100,000 population are not shown for geographic divisions, because of the difficulty of estimating population for different localities with sufficiently equal accuracy to justify the comparison of detailed death-rates for individual causes of death.

TABLE 9.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Main Geographic Divisions: 1909 and 1908.*

CAUSE OF DEATH.	The State.		Northern California		Central California.		Southern California.	
	1909.	1908.	1909.	1908.	1909.	1908	1909.	1908.
DEATHS.								
ALL CAUSES	30,985	31,287	3,946	4,148	17,599	18,145	9,440	8,994
Typhoid fever	461	540	73	79	260	319	128	142
Malarial fever	112	80	41	23	63	51	8	6
Smallpox	6	9	1	2	3	6	2	1
Measles	119	101	20	15	64	62	35	24
Scarlet fever	69	104	4	22	43	58	22	24
Whooping-cough	217	149	14	8	136	88	67	53
Diphtheria and croup	248	391	45	46	145	248	58	97
Influenza	82	125	21	32	43	48	18	45
Plague	1	5	------	------	1	5	------	------
Other epidemic diseases	108	126	15	21	64	67	29	38
Tuberculosis of lungs	4,061	3,945	409	336	1,992	2,019	1,660	1,590
Tuberculosis of other organs	612	620	43	64	363	364	206	192
Cancer	1,945	1,737	191	181	1,177	1,058	577	498
Other general diseases	1,177	1,186	141	184	680	702	356	300
Meningitis	398	571	33	62	241	355	124	154
Other diseases of nervous system	2,479	2,422	489	429	1,191	1,273	799	720
Diseases of circulatory system	4,966	4,540	604	618	3,046	2,758	1,316	1,164
Pneumonia and broncho-pneumonia	2,081	2,421	260	379	1,250	1,429	571	613
Other diseases of respiratory system	842	861	98	105	521	516	223	240
Diarrhea and enteritis, under 2 years	966	922	88	91	570	578	308	253
Diarrhea and enteritis, 2 years and over	270	243	31	37	149	127	90	79
Other diseases of digestive system	1,596	1,646	217	217	902	976	477	453
Bright's disease and nephritis	1,858	1,797	176	184	1,092	1,059	590	554
Childbirth	300	339	40	43	182	206	78	90
Diseases of early infancy	998	1,108	96	100	566	681	336	327
Suicide	702	757	75	86	464	495	163	176
Other violence	2,563	2,569	439	423	1,453	1,522	671	624
All other causes	1,748	1,973	282	361	938	1,075	528	537
PROPORTION PER 1,000 TOTAL DEATHS.								
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	14.9	17.3	18.5	19.1	14.8	17.6	13.6	15.8
Malarial fever	3.6	2.6	10.4	5.5	3.6	2.8	0.9	0.7
Smallpox	0.2	0.3	0.3	0.5	0.2	0.3	0.2	0.1
Measles	3.8	3.2	5.1	3.6	3.6	3.4	3.7	2.7
Scarlet fever	2.2	3.3	1.0	5.3	2.4	3.2	2.3	2.7
Whooping-cough	7.0	4.8	3.5	1.9	7.7	4.8	7.1	5.9
Diphtheria and croup	8.0	12.5	11.4	11.1	8.2	13.7	6.2	10.8
Influenza	2.6	4.0	5.3	7.7	2.4	2.6	1.9	5.0
Plague	*	0.2	------	------	0.1	0.2	------	------
Other epidemic diseases	3.5	4.0	3.8	5.1	3.6	3.7	3.1	4.2
Tuberculosis of lungs	131.0	126.1	103.7	81.0	113.2	111.3	175.9	176.8
Tuberculosis of other organs	19.8	19.8	10.9	15.4	20.6	20.1	21.8	21.3
Cancer	62.8	55.5	48.4	43.6	66.9	58.3	61.1	55.4
Other general diseases	38.0	37.9	35.7	44.4	38.6	38.7	37.7	33.3
Meningitis	12.8	18.2	8.4	15.0	13.7	19.6	13.1	17.1
Other diseases of nervous system	80.0	77.4	123.9	103.4	67.7	70.2	84.6	80.0
Diseases of circulatory system	160.3	145.1	153.1	149.0	173.1	152.0	139.4	129.4
Pneumonia and broncho-pneumonia	67.2	77.4	65.9	91.4	71.0	78.7	60.5	68.1
Other diseases of respiratory system	27.2	27.5	24.8	25.3	29.6	28.4	23.6	26.7
Diarrhea and enteritis, under 2 years	31.2	29.5	22.3	21.9	32.4	31.9	32.6	28.1
Diarrhea and enteritis, 2 years and over	8.7	7.8	7.9	8.9	8.5	7.0	9.5	8.8
Other diseases of digestive system	51.5	52.6	55.0	52.3	51.3	53.8	50.5	50.4
Bright's disease and nephritis	60.0	57.4	44.6	44.4	62.0	58.4	62.5	61.6
Childbirth	9.7	10.8	10.1	10.4	10.3	11.4	8.3	10.0
Diseases of early infancy	32.2	35.4	24.3	24.1	32.2	37.5	35.6	36.4
Suicide	22.7	24.2	19.0	20.7	26.4	27.3	17.3	19.6
Other violence	82.7	82.1	111.2	102.0	82.6	83.9	71.1	69.4
All other causes	56.4	63.1	71.5	87.0	53.3	59.2	55.9	59.7

*Less than one tenth of 1 per thousand.

This table shows that the proportions for typhoid fever were particularly high for Northern California each year, 18.5 and 19.1 in 1909 and 1908, against State averages of 14.9 and 17.3 per 1,000 total deaths. In 1908 alone, moreover, the proportion for Central California was slightly above the State average, 17.6 against 17.3.

The proportions for diphtheria and croup were above the State averages each year for Central California, being 8.2 and 13.7 for this main division in 1909 and 1908 as compared with 8.0 and 12.5 for the State as a whole. In 1909, however, the proportion of all deaths from diphtheria and croup was especially high for Northern California, 11.4 per 1,000 total deaths against only 8.0 for the State.

For Northern California the proportions are particularly high for diseases of the nervous system other than meningitis, being no less than 123.9 and 103.4 for this main division, against only 80.0 and 77.4 for the whole State, as well as for violence other than suicide, being 111.2 and 102.0 for this division against 87.2 and 82.1 for the State in 1909 and 1908, respectively.

Central California excels especially in the proportions for diseases of the circulatory system (heart disease, etc.), 173.1 and 152.0 against State averages of 160.3 and 145.1. Central California also excels somewhat in the proportions for cancer, 66.9 and 58.3 against 62.8 and 55.5; for pneumonia and broncho-pneumonia, 71.0 and 78.7 against 67.2 and 77.4; and for Bright's disease and nephritis, 62.0 and 58.4 against 60.0 and 57.4.

Southern California leads decidedly in the proportions for tuberculosis. The proportions per 1,000 total deaths for tuberculosis of the lungs were no less than 175.9 and 176.8 for this main division against only 131.0 and 126.1 for the entire State, and for tuberculosis of other organs were 21.8 and 21.3 for this division against 19.8 each year for the State.

Minor Geographic Divisions.—The table on the following pages presents similar figures for the eight minor geographic divisions:

TABLE 10.—*Deaths from Certain Principal Causes, with Proportion*

CAUSE OF DEATH.	Deaths.						
	The State	Northern California.		Central California.			
		Coast Counties	Interior Counties	San Francisco	Other Bay Counties	Coast Counties	Interior Counties
1909.							
ALL CAUSES	30,985	1,913	2,033	6,150	4,108	2,167	5,174
Typhoid fever	461	24	49	60	42	26	132
Malarial fever	112	4	37	7	4	6	46
Smallpox	6		1			2	1
Measles	119	15	5	29	15	6	14
Scarlet fever	69	2	2	18	7	4	14
Whooping-cough	217	12	2	51	56	13	16
Diphtheria and croup	248	13	32	51	36	13	45
Influenza	82	2	19	5	5	11	22
Plague	1				1		
Other epidemic diseases	108	7	8	28	9	6	21
Tuberculosis of lungs	4,061	193	216	675	446	254	617
Tuberculosis of other organs	612	20	23	147	87	55	74
Cancer	1,945	100	91	490	275	143	269
Other general diseases	1,177	65	76	245	148	78	209
Meningitis	398	22	11	68	62	37	74
Other diseases of nervous system	2,479	341	148	308	312	160	411
Diseases of circulatory system	4,966	303	301	1,166	759	413	708
Pneumonia and broncho-pneumonia	2,081	104	156	459	305	135	351
Other diseases of respiratory system	842	55	43	205	109	61	146
Diarrhea and enteritis, under 2 years	966	32	56	163	151	63	193
Diarrhea and enteritis, 2 years and over	270	17	14	50	23	16	60
Other diseases of digestive system	1,596	110	107	318	200	104	280
Bright's disease and nephritis	1,858	83	93	390	268	159	275
Childbirth	300	19	21	72	44	18	48
Diseases of early infancy	998	49	47	221	132	61	152
Suicide	702	32	43	219	94	47	104
Other violence	2,563	160	279	436	326	161	530
All other causes	1,748	129	153	269	192	115	362
1908.							
ALL CAUSES	31,287	1,943	2,205	6,260	4,265	2,131	5,489
Typhoid fever	540	23	56	77	68	29	145
Malarial fever	80	2	21	6	6	3	36
Smallpox	9		2	2	3		1
Measles	101	4	11	23	17	11	11
Scarlet fever	104	7	15	17	6	14	21
Whooping-cough	149	5	3	25	27	6	30
Diphtheria and croup	391	15	31	81	53	27	87
Influenza	125	8	24	5	3	14	26
Plague	5			1	4		
Other epidemic diseases	126	7	14	19	10	5	33
Tuberculosis of lungs	3,945	163	173	718	426	253	622
Tuberculosis of other organs	620	39	25	127	94	45	98
Cancer	1,737	104	77	409	277	116	256
Other general diseases	1,186	86	98	244	162	80	216
Meningitis	571	32	30	112	73	39	131
Other diseases of nervous system	2,422	277	152	351	291	178	453
Diseases of circulatory system	4,540	317	301	1,054	709	367	628
Pneumonia and broncho-pneumonia	2,421	138	241	580	312	150	387
Other diseases of respiratory system	861	50	55	193	124	56	143
Diarrhea and enteritis, under 2 years	922	38	53	171	138	59	210
Diarrhea and enteritis, 2 years and over	243	18	19	32	29	21	45
Other diseases of digestive system	1,646	105	112	357	218	100	301
Bright's disease and nephritis	1,797	97	87	376	281	136	266
Childbirth	339	17	26	76	42	17	71
Diseases of early infancy	1,108	50	50	234	182	66	199
Suicide	757	37	49	202	113	57	123
Other violence	2,569	143	280	463	357	169	533
All other causes	1,973	161	200	305	240	113	417

*Less than one tenth of 1 per thousand.

per 1,000 Total Deaths, for Minor Geographic Divisions: 1909 and 1908.

Deaths.		Proportion per 1,000 Total Deaths.								
Southern California.		The State	Northern California.		Central California.				Southern California.	
Los Angeles ..	Other Counties .		Coast Counties .	Interior Counties	San Francisco	Other Bay Counties	Coast Counties .	Interior Counties	Los Angeles .	Other Counties
6,392	3,048	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
69	59	14.9	12.5	24.1	9.8	10.2	12.0	25.5	10.8	19.4
2	--------	0.2	--------	0.5	--------	--------	0.9	0.2	0.3	--------
5	3	3.6	2.1	18.2	1.1	1.0	2.8	8.9	0.8	1.0
26	9	3.8	7.8	2.5	4.7	3.7	2.8	2.7	4.1	3.0
15	7	2.2	1.0	1.0	2.9	1.7	1.8	2.7	2.4	2.3
38	29	7.0	6.3	1.0	8.3	13.6	6.0	3.1	5.9	9.5
36	22	8.0	6.8	15.7	8.3	8.8	6.0	8.7	5.6	7.2
9	9	2.6	1.0	9.3	0.8	1.2	5.1	4.3	1.4	3.0
--------	--------	*	--------	--------	--------	0.2	--------	--------	--------	--------
18	11	3.5	3.7	3.9	4.6	2.2	2.8	4.1	2.8	3.6
1,133	527	131.0	100.9	106.2	109.8	108.6	117.2	119.2	177.3	172.9
130	76	19.8	10.5	11.3	23.9	21.2	25.4	14.3	20.3	24.9
433	144	62.8	52.3	44.8	79.7	66.9	66.0	52.0	67.7	47.2
256	100	38.0	34.0	37.4	39.8	36.0	36.0	40.4	40.1	32.8
91	33	12.8	11.5	5.4	11.1	15.1	17.1	14.3	14.2	10.8
496	303	80.0	178.3	72.8	50.1	76.0	73.8	79.4	77.6	99.4
911	405	160.3	158.4	148.1	189.6	184.8	190.6	136.8	142.5	132.9
381	190	67.2	54.4	76.7	74.6	74.2	62.3	67.8	59.6	62.3
146	77	27.2	28.8	21.2	33.3	26.5	28.1	28.2	22.8	25.3
178	130	31.2	16.7	27.5	26.5	36.8	29.1	37.3	27.9	42.7
63	27	8.7	8.9	6.9	8.1	5.6	7.4	11.6	9.9	8.9
347	130	51.5	57.5	52.6	51.7	48.7	48.0	54.1	54.3	42.6
446	144	60.0	43.4	45.8	63.4	65.2	73.4	53.2	69.8	47.2
50	28	9.7	9.9	10.3	11.7	10.7	8.3	9.3	7.8	9.2
228	108	32.2	25.6	23.1	35.9	32.1	28.1	29.4	35.7	35.4
108	55	22.7	16.7	21.2	35.6	22.9	21.7	20.1	16.9	18.0
422	249	82.7	83.6	137.2	70.9	79.4	74.3	102.4	66.0	81.7
355	173	56.4	67.4	75.3	43.8	46.7	53.0	70.0	55.5	56.8
6,011	2,983	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
83	59	17.3	11.8	25.4	12.3	15.9	13.6	26.4	13.8	19.8
5	1	2.6	1.0	9.5	1.0	1.4	1.4	6.6	0.8	0.3
1	--------	0.3	--------	0.9	0.3	0.7	--------	0.2	0.2	--------
11	13	3.2	2.1	5.0	3.7	4.0	5.2	2.0	1.8	4.4
19	5	3.3	3.6	6.8	2.7	1.4	6.6	3.8	3.2	1.7
29	24	4.8	2.6	1.4	4.0	6.3	2.8	5.5	4.8	8.0
69	28	12.5	7.7	14.1	12.9	12.4	12.7	15.8	11.5	9.4
25	20	4.0	4.1	10.9	0.8	0.7	6.6	4.7	4.2	6.7
--------	--------	0.2	--------	--------	0.2	0.9	--------	--------	--------	--------
24	14	4.0	3.6	6.4	3.0	2.3	2.3	6.0	4.0	4.7
1,066	524	126.1	83.9	78.5	114.7	99.9	118.7	113.3	177.3	175.7
113	79	19.8	20.1	11.3	20.3	22.0	21.1	17.9	18.8	26.5
360	138	55.5	53.5	34.9	65.3	65.0	54.4	46.6	59.9	46.3
207	93	37.9	44.3	44.4	39.0	38.0	37.5	39.3	34.4	31.2
97	57	18.2	16.5	13.6	17.9	17.1	18.3	23.9	16.1	19.1
460	260	77.4	142.6	68.9	56.1	68.2	83.5	82.5	76.5	87.2
837	327	145.1	163.1	136.5	168.4	166.2	172.2	114.4	139.2	109.6
400	213	77.4	71.0	109.3	92.6	73.2	70.4	70.5	66.5	71.4
171	69	27.5	25.7	24.9	30.8	29.1	26.3	26.1	28.5	23.1
153	100	29.5	19.6	24.0	27.3	32.4	27.7	38.3	25.5	33.5
54	25	7.8	9.3	8.6	5.1	6.8	9.9	8.2	9.0	8.4
310	143	52.6	54.0	50.8	57.0	51.1	46.9	54.8	51.6	47.9
390	164	57.4	49.9	39.5	60.1	65.9	63.8	48.5	64.9	55.0
56	34	10.8	8.8	11.8	12.1	9.9	8.0	12.9	9.3	11.4
213	114	35.4	25.7	22.7	37.4	42.7	31.0	36.3	35.4	38.2
121	55	24.2	19.0	22.2	32.3	26.5	26.8	22.4	20.1	18.4
382	242	82.1	73.6	127.0	74.0	83.7	79.3	97.1	63.6	81.1
355	182	63.1	82.9	90.7	48.7	56.3	53.0	76.0	59.1	61.0

From the proportions per 1,000 total deaths shown for minor geographic divisions it appears that the high proportions for typhoid fever noted for Northern California each year and for Central California in 1908 were confined in both cases to the interior counties. The proportions for typhoid fever were very high each year for the interior counties of both Northern and Central California as well as for the counties of Southern California other than Los Angeles. As compared with State averages of 14.9 and 17.3 in 1909 and 1908, respectively, the proportions per 1,000 total deaths were no less than 25.5 and 26.4 for the interior counties of Central California; 24.1 and 25.4 for the interior counties of Northern California; and 19.4 and 19.8 for Southern California except Los Angeles.

The proportions for diphtheria and croup were above the State averages of 8.0 and 12.5 in 1909 and 1908, respectively, for the interior counties of Northern California, 15.7 and 14.1; for the interior counties of Central California, 8.7 and 15.8; and for San Francisco, 8.3 and 12.9. The proportion was also above the State average in 1909 alone for the group of other bay counties, 8.8, and was above the State average in 1908 alone likewise for the coast counties of Central California, 12.7.

The coast counties of Northern California have very high proportions for diseases of the nervous system other than meningitis, 178.3 and 142.6 in 1909 and 1908 against State averages of only 80.0 and 74.4. This is accounted for by the fact that many of the deaths reported for this geographic division occurred at the Mendocino and Napa State Hospitals. The proportions for diseases of the nervous system are also quite high for the counties south of Tehachapi except Los Angeles (99.4 and 87.2), and for the coast counties of Central California (73.8 and 83.5), the former division including the Southern California State Hospital and the latter the Agnews State Hospital.

The interior counties of Northern California show proportions that are very high indeed, 137.2 and 127.0 against State averages of only 82.7 and 82.1, for miscellaneous deaths from violence, as drowning, railroad injuries, other accidents, etc.

The proportions for diseases of the circulatory system (160.3 and 145.1 for the State in 1909 and 1908) are particularly high for San Francisco (189.6 and 168.4), for the other bay counties (184.8 and 166.2), and for the adjoining coast counties (190.6 and 172.2).

The proportions for pneumonia and broncho-pneumonia (67.2 for the State in 1909 and 77.4 in 1908) are especially high for San Francisco (74.6 and 92.6) and for the other bay counties (74.2 and 73.2), as well as for the interior counties of Northern California (76.7 and 109.3).

The proportions of all deaths from diarrhea and enteritis among children under 2 years of age, 31.2 in 1909 and 29.5 in 1908 for the State, were notably high for the bay counties other than San Francisco, 36.8 and 32.4; for the interior counties of Central California, 37.3 and 38.3; and for the counties south of Tehachapi other than Los Angeles, 42.7 and 33.5.

In San Francisco the proportions per 1,000 total deaths for cancer were no less than 79.7 in 1909 and 65.3 in 1908 against State averages of 62.8 and 55.5, respectively. Similarly, the proportions for suicide were as great as 35.6 and 32.3 for San Francisco as compared with 22.7 and 24.2 for the State as a whole.

The proportions for tuberculosis of the lungs, 131.0 in 1909 and 126.1 in 1908 for the State, were no less than 177.3 each year for Los Angeles south of Tehachapi. Similarly, against a State average of 19.8 each year for tuberculosis of other organs, the proportions per 1,000 total deaths were 20.3 in 1909 and 18.8 in 1908 for Los Angeles and 24.9 and 26.5, respectively, for the rest of Southern California.

Urban and Rural Districts.—The table which follows has been prepared to bring out the contrast between mortality conditions in urban and rural districts, figures like those in preceding tables being given here for the metropolitan area, comprising San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), as compared with the rural counties of Northern and Central California:

TABLE 11.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Metropolitan Area and Rural Counties of Northern and Central California: 1909 and 1908.*

CAUSE OF DEATH.	Northern and Central California.		Metropolitan Area.		Rural Counties.	
	1909.	1908.	1909.	1908	1909.	1908.
DEATHS.						
ALL CAUSES	21,545	22,293	10,258	10,525	11,287	11,768
Typhoid fever	333	398	102	145	231	253
Malarial fever	104	74	11	12	93	62
Smallpox	4	8	---------	5	4	3
Measles	84	77	44	40	40	37
Scarlet fever	47	80	25	23	22	57
Whooping-cough	150	96	107	52	43	44
Diphtheria and croup	190	294	87	134	103	160
Influenza	64	80	10	8	54	72
Plague	1	5	1	5	---------	---------
Other epidemic diseases	79	88	37	29	42	59
Tuberculosis of lungs	2,401	2,355	1,121	1,144	1,280	1,211
Tuberculosis of other organs	406	428	234	221	172	207
Cancer	1,368	1,239	765	686	603	553
Other general diseases	821	886	393	406	428	480
Meningitis	274	417	130	185	144	232
Other diseases of nervous system	1,680	1,702	620	642	1,060	1,060
Diseases of circulatory system	3,650	3,376	1,925	1,763	1,725	1,613
Pneumonia and broncho-pneumonia	1,510	1,808	764	892	746	916
Other diseases of respiratory system	619	621	314	317	305	304
Diarrhea and enteritis, under 2 years	658	669	314	309	344	360
Diarrhea and enteritis, 2 years and over	180	164	73	61	107	103
Other diseases of digestive system	1,119	1,193	518	575	601	618
Bright's disease and nephritis	1,268	1,243	658	657	610	586
Childbirth	222	249	116	118	106	131
Diseases of early infancy	662	781	353	416	309	365
Suicide	539	581	313	315	226	266
Other violence	1,892	1,945	762	820	1,130	1,125
All other causes	1,220	1,436	461	545	759	891
PROPORTION PER 1,000 TOTAL DEATHS.						
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	15.5	17.9	10.0	13.8	20.5	21.5
Malarial fever	4.8	3.3	1.1	1.1	8.2	5.3
Smallpox	0.2	0.4	---------	0.5	0.4	0.3
Measles	3.9	3.5	4.3	3.8	3.5	3.2
Scarlet fever	2.2	3.6	2.4	2.2	1.9	4.8
Whooping-cough	7.0	4.3	10.4	4.9	3.8	3.7
Diphtheria and croup	8.8	13.2	8.5	12.7	9.1	13.6
Influenza	3.0	3.6	1.0	0.8	4.8	6.1
Plague	0.1	0.2	0.1	0.5	---------	---------
Other epidemic diseases	3.7	3.9	3.6	2.8	3.7	5.0
Tuberculosis of lungs	111.4	105.6	109.3	108.7	113.4	102.9
Tuberculosis of other organs	18.8	19.2	22.8	21.0	15.2	17.6
Cancer	63.5	55.6	74.6	65.2	53.4	47.0
Other general diseases	38.1	39.7	38.3	38.6	37.9	40.8
Meningitis	12.7	18.7	12.7	17.6	12.8	19.7
Other diseases of nervous system	78.0	76.3	60.4	61.0	93.9	90.1
Diseases of circulatory system	169.4	151.4	187.6	167.5	152.8	137.1
Pneumonia and broncho-pneumonia	70.1	81.1	74.5	84.7	66.1	77.8
Other diseases of respiratory system	28.7	27.9	30.6	30.1	27.0	25.8
Diarrhea and enteritis, under 2 years	30.5	30.0	30.6	29.4	30.5	30.6
Diarrhea and enteritis, 2 years and over	8.4	7.4	7.1	5.8	9.5	8.8
Other diseases of digestive system	51.9	53.5	50.5	54.6	53.3	52.5
Bright's disease and nephritis	58.9	55.8	64.2	62.4	54.1	49.8
Childbirth	10.3	11.2	11.3	11.2	9.4	11.1
Diseases of early infancy	30.7	35.0	34.4	39.5	27.4	31.0
Suicide	25.0	26.1	30.5	29.9	20.0	22.6
Other violence	87.8	87.2	74.3	77.9	100.1	95.6
All other causes	56.6	64.4	44.9	51.8	67.3	75.7

There were not far from the same number of deaths each year in the metropolitan area as in all the other counties north of Tehachapi, the totals being, respectively, 10,258 and 11,287 in 1909 and 10,525 and 11,768 in 1908. However, there are marked differences between the whole urban area and the rural districts in the distribution of deaths by main causes.

The proportion per 1,000 total deaths for typhoid fever was only 10.0 in 1909 and 13.8 in 1908 for the metropolitan area as compared with 20.5 and 21.5 for the rural counties. Similarly, the proportions for diphtheria and croup were 8.5 and 12.7 for the urban territory against 9.1 and 13.6 for the country districts. The proportions for malarial fever were very much less for the metropolitan area, 1.1 each year, than for the rural counties, 8.2 in 1909 and 5.3 in 1908.

On the other hand, the proportions for whooping-cough were considerably larger for the the urban territory, 10.4 in 1909 and 4.9 in 1908, than for the country districts, 3.8 and 3.7, respectively. The proportions for measles were also somewhat greater for the metropolitan area, 4.3 and 3.8, than for the rural counties, 3.5 and 3.2.

The proportion of deaths from diseases of the circulatory system (heart disease, etc.) is very much higher for the urban territory than for the country districts, the proportions per 1,000 total deaths for the former in 1909 and 1908 being as great as 187.6 and 167.5 against only 152.8 and 137.1 for the latter. The proportions for Bright's disease and nephritis, which often occur with heart disease, were also higher each year for the metropolitan area (64.2 and 62.4) than for the rural counties (54.1 and 49.8).

Other important cases in which the proportions per 1,000 total deaths were higher in both 1909 and 1908 for the urban territory than for the country districts are as follows: Cancer, 74.6 and 65.2 against 53.4 and 47.0; pneumonia and broncho-pneumonia, 74.5 and 84.7 against 66.1 and 77.8; diseases of early infancy (under 3 months), 34.4 and 39.5 against 27.4 and 31.0; and suicide, 30.5 and 29.9 against 20.0 and 22.6.

On the other hand, the proportions were higher in both 1909 and 1908 for the rural counties than for the metropolitan area in the following notable instances: Diseases of the nervous system other than meningitis, 93.9 and 90.1 as compared with 60.4 and 61.0; violence other than suicide (*i. e.* sundry accidents), 100.1 and 95.6 as compared with 74.3 and 77.9; and miscellaneous causes (including "old age"), 67.3 and 75.7 as compared with 44.9 and 51.8.

In short, there are relatively more deaths in the metropolitan area than in the rural counties north of Tehachapi from heart disease, Bright's disease, cancer, pneumonia, infancy, and suicide, as well as from whooping-cough and measles. However, there is a relatively greater mortality in country districts than in the urban territory from diseases of the nervous system, accidental violence, and "old age," as well as from typhoid fever, diphtheria and croup, and malarial fever.

Cities and Rest of State.—A further contrast between mortality conditions in city and country districts is available for 1909 and 1908 by comparing deaths in chartered cities as a class with deaths in all the rest of the State. There were twenty-six freeholders' charter cities in 1909 and twenty-four in 1908, the two additional cities being Palo

Alto, with only 48 deaths, and Richmond, with 92. The following table shows for 1909 and 1908 the number of deaths from certain principal causes, as well as the proportion from each cause per 1,000 total deaths, for chartered cities as a class and for the rest of the State as a whole:

TABLE 12.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Cities and Rest of State: 1909 and 1908.*

CAUSE OF DEATH.	California.		Freeholders' Charter Cities.		Rest of State.	
	1909.	1908.	1909.	1908.	1909.	1908.
DEATHS.						
ALL CAUSES	30,985	31,287	17,472	17,480	13,513	13,807
Typhoid fever	461	540	221	267	240	273
Malarial fever	112	80	31	24	81	56
Smallpox	6	9	2	4	4	5
Measles	119	101	71	54	48	47
Scarlet fever	69	104	47	35	22	69
Whooping-cough	217	149	133	71	84	78
Diphtheria and croup	248	391	129	207	119	184
Influenza	82	125	26	50	56	75
Plague	1	5	--------	3	1	2
Other epidemic diseases	108	126	64	66	44	60
Tuberculosis of lungs	4,061	3,945	2,209	2,243	1,852	1,702
Tuberculosis of other organs	612	620	389	377	223	243
Cancer	1,945	1,737	1,244	1,129	701	608
Other general diseases	1,177	1,186	683	621	494	565
Meningitis	398	571	240	325	158	246
Other diseases of nervous system	2,479	2,422	1,239	1,266	1,240	1,156
Diseases of circulatory system	4,966	4,540	2,907	2,671	2,059	1,869
Pneumonia and broncho-pneumonia	2,081	2,421	1,178	1,371	903	1,050
Other diseases of respiratory system	842	861	511	501	331	360
Diarrhea and enteritis, under 2 years	966	922	491	489	475	433
Diarrhea and enteritis, 2 years and over	270	243	153	138	117	105
Other diseases of digestive system	1,596	1,646	953	989	643	657
Bright's disease and nephritis	1,858	1,797	1,170	1,109	688	688
Childbirth	300	339	172	202	128	137
Diseases of early infancy	998	1,108	619	664	379	444
Suicide	702	757	443	475	259	282
Other violence	2,563	2,569	1,220	1,178	1,343	1,391
All other causes	1,748	1,973	927	951	821	1,022
PROPORTION PER 1,000 TOTAL DEATHS.						
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	14.9	17.3	12.7	15.3	17.8	19.8
Malarial fever	3.6	2.6	1.8	1.4	6.0	4.1
Smallpox	0.2	0.3	0.1	0.2	0.3	0.4
Measles	3.8	3.2	4.1	3.1	3.5	3.4
Scarlet fever	2.2	3.3	2.7	2.0	1.6	5.0
Whooping-cough	7.0	4.8	7.6	4.1	6.2	5.6
Diphtheria and croup	8.0	12.5	7.4	11.8	8.8	13.3
Influenza	2.6	4.0	1.5	2.9	4.1	5.4
Plague	*	0.2	--------	0.2	0.1	0.1
Other epidemic diseases	3.5	4.0	3.7	3.8	3.2	4.4
Tuberculosis of lungs	131.0	126.1	126.4	128.3	137.0	123.3
Tuberculosis of other organs	19.8	19.8	22.3	21.6	16.5	17.6
Cancer	62.8	55.5	71.2	64.6	51.9	44.0
Other general diseases	38.0	37.9	39.1	35.5	36.6	40.9
Meningitis	12.8	18.2	13.7	18.6	11.7	17.8
Other diseases of nervous system	80.0	77.4	70.9	72.4	91.8	83.7
Diseases of circulatory system	160.3	145.1	166.4	152.8	152.4	135.4
Pneumonia and broncho-pneumonia	67.2	77.4	67.2	78.4	66.8	76.1
Other diseases of respiratory system	27.2	27.5	29.2	28.6	24.5	26.1
Diarrhea and enteritis, under 2 years	31.2	29.5	28.1	28.0	35.1	31.4
Diarrhea and enteritis, 2 years and over	8.7	7.8	8.8	7.9	8.7	7.6
Other diseases of digestive system	51.5	52.6	54.5	56.6	47.6	47.6
Bright's disease and nephritis	60.0	57.4	67.0	63.4	50.9	49.8
Childbirth	9.7	10.8	9.9	11.5	9.5	9.9
Diseases of early infancy	32.2	35.4	35.4	38.0	28.0	32.2
Suicide	22.7	24.2	25.4	27.2	19.2	20.4
Other violence	82.7	82.1	69.8	67.4	99.4	100.7
All other causes	56.4	63.1	53.1	54.4	60.8	74.0

*Less than one tenth of 1 per thousand.

Of 30,985 deaths in California in 1909, 17,472, or 56.4 per cent, occurred in the twenty-six freeholders' charter cities, and 13,513, or

43.6 per cent, occurred in all the rest of the State. Of the 31,287 deaths in 1908, the number within the twenty-four chartered cities was 17,480, or 55.9 per cent, and the number outside these cities was 13,807, or 44.1 per cent. Each year about five ninths of the deaths in California occurred within chartered cities and about four ninths outside them.

The proportion per 1,000 total deaths for typhoid fever was only 12.7 in 1909 and 15.3 in 1908 for chartered cities as a class against 17.8 and 19.8, respectively, for the rest of the State as a whole. The proportions for diphtheria and croup were likewise less for chartered cities, 7.4 and 11.8, than for the rest of California, 8.8 and 13.3. For malarial fever, moreover, the proportions per 1,000 total deaths were very much less within cities, 1.8 and 1.4, than outside them, 6.0 and 4.1.

Relatively more deaths occur within cities than outside them, however, from diseases of the circulatory system (heart disease, etc.). The proportions per 1,000 total deaths in 1909 and 1908, respectively, were 166.4 and 152.8 for chartered cities as compared with 152.4 and 135.4 for the rest of the State. For Bright's disease and nephritis, often reported with heart disease, the proportions were likewise higher each year within chartered cities, 67.0 and 63.4, than outside them, 50.9 and 49.8.

The proportions per 1,000 total deaths were also higher in 1909 as well as 1908 for chartered cities than for the rest of California in the following important cases: Cancer, 71.2 and 64.6 against 51.9 and 44.4; pneumonia and broncho-pneumonia, 67.2 and 78.4 against 66.8 and 76.1; diseases of the digestive system other than diarrhea and enteritis, 54.5 and 56.6 against 47.6 each year; diseases of early infancy (under 3 months), 35.4 and 38.0 against 28.0 and 32.2; and suicide, 25.4 and 27.2 against 19.2 and 20.4.

On the other hand, the proportions were higher in both 1909 and 1908 outside cities than within them in certain notable instances, as follows: Diseases of the nervous system other than meningitis, 91.8 and 83.7 as compared with 70.9 and 72.4; diarrhea and enteritis (under 2 years), 35.1 and 31.4 as compared with 28.1 and 28.0; violence other than suicide (*i. e.,* various accidental injuries), 99.4 and 100.7 as compared with 69.8 and 67.4; and miscellaneous causes (including "old age"), 60.8 and 74.0 as compared with 53.1 and 54.4.

In other words, there are relatively more deaths within chartered cities than outside them from heart disease, Bright's disease, cancer, pneumonia, digestive ailments (except diarrhea), infancy, and suicide. Mortality is relatively greater outside cities than within them, however, from diseases of the nervous system (except meningitis), accidental injuries, and "old age," as well as from typhoid fever, diphtheria and croup, and malarial fever of the epidemic diseases.

Individual Cities.—Corresponding figures for individual chartered cities appear in Tables 30 and 31, pages 138 to 143. In these tables the cities are arranged in rough geographic order to facilitate comparisons between neighboring cities or between cities in the same portion of the State. These tables, because of their length, are placed with other general tables at the end of the section on deaths, but for convenience in reference the titles are given here as follows:

TABLE 30.—Deaths from Certain Principal Causes, with Proportion per 1000 Total Deaths, for Freeholders' Charter Cities arranged Geographically: 1909.

TABLE 31.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Freeholders' Charter Cities arranged Geographically: 1908.

Counties.—Preceding figures for deaths in main and minor geographic divisions in 1909 and 1908 are supplemented by extended tables giving similar figures for the fifty-eight counties in 1909 alone. The counties are arranged in geographic order, by minor geographic divisions, but for the sake of ready reference the counties in each group are listed alphabetically. The grouping of the counties according to geographic location facilitates the analysis of mortality conditions in any minor geographic division by immediate reference to the counties included in the group.

The county table for 1909, like similar tables for chartered cities in 1909 and 1908, appears with other general tables at the end of the section of deaths, the county table being on pages 144 to 149. However, the title of this county table is here given as follows:

TABLE 32.—Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Counties arranged Geographically: 1909.

TUBERCULOSIS IN CALIFORNIA.

The State.—Tuberculosis is the leading single cause of death in California, being the cause of about one seventh of all deaths. Of 30,985 deaths reported to the State Bureau of Vital Statistics for 1909, 4,673, or 15.1 per cent, were from tuberculosis, and of 31,287 deaths reported for 1908, 4,565, or 14.6 per cent, were also from the "great white plague." The totals for all diseases of the circulatory system (heart disease, etc.) were 4,966 and 4,540 in 1909 and 1908, respectively; for diseases of the respiratory system (pneumonia, etc.) only 2,923 and 3,282; for diseases of the nervous system 2,877 and 2,993; and for diseases of the digestive system 2,832 and 2,811.

From tuberculosis of the lungs there were 4,061 deaths in 1909 as compared with 3,945 in 1908, while from tuberculosis of other organs there were 612 deaths in 1909 against 620 in 1908.* Of each 1,000 deaths in California in 1909, 131.0 were from tuberculosis of the lungs and 19.8 from tuberculosis of other organs, or 150.9 from tuberculosis of all organs. In 1908 the proportions were 126.1 for tuberculosis of the lungs and 19.8 for tuberculosis of other organs, or 145.9 for all forms.

For an estimated State population of 2,306,001 in 1909 the death-rate per 100,000 inhabitants is 176.1 for tuberculosis of the lungs and 26.5 for tuberculosis of other organs, or altogether 202.6 for all forms of tuberculosis. Similarly, for an estimated population of 2,215,615 in 1908 the death-rate per 100,000 is 178.1 for pulmonary tuberculosis and 28.0 for other forms, or 206.1 for all kinds. In short, the tuberculosis death-rate per 100,000 was no less than 202.6 for 1909 and 206.1 for 1908.

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*The distribution of deaths from tuberculosis other than pulmonary was as follows:

	1909.	1908.
Tuberculosis of larynx	31	35
Tuberculosis meningitis	227	233
Abdominal tuberculosis	206	181
Pott's disease	32	30
Tuberculous abscess	2	2
White swelling	20	19
Tuberculosis of other organs	26	32
General tuberculosis	68	88
Total	612	620

The general death-rate per 1,000 population was 13.4 for California in 1909 and 14.1 in 1908, the rates being swollen greatly by deaths from tuberculosis. It will be shown that many deaths from tuberculosis in California occur among persons of short residence in the State, who evidently came here when too far gone with the disease to be cured. It is also quite likely that many other cases arising here are directly due to this imported infection.

Geographic Divisions.—Southern California is an especially popular resort for consumptives, and here about one fifth of all deaths are due to tuberculosis. The table which appears below shows the number and per cent of deaths from tuberculosis for the several geographic divisions of the State in both 1909 and 1908.

TABLE 13.—*Number and Per Cent of Deaths from Tuberculosis, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Deaths.		Tuberculosis.			
			Number.		Per Cent.	
	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	30,985	31,287	4,673	4,565	15.1	14.6
Northern California	3,946	4,148	452	400	11.5	9.6
Coast counties	1,913	1,943	213	202	11.1	10.4
Interior counties	2,033	2,205	239	198	11.8	9.0
Central California	17,599	18,145	2,355	2,383	13.4	13.1
San Francisco	6,150	6,260	822	845	13.4	13.5
Other bay counties	4,108	4,265	533	520	13.0	12.2
Coast counties	2,167	2,131	309	298	14.3	14.0
Interior counties	5,174	5,489	691	720	13.4	13.1
Southern California	9,440	8,994	1,866	1,782	19.8	19.8
Los Angeles	6,392	6,011	1,263	1,179	19.8	19.6
Other counties	3,048	2,983	603	603	19.8	20.2
Northern and Central California	21,545	22,293	2,807	2,783	13.0	12.5
Coast counties	14,338	14,599	1,877	1,865	13.1	12.8
Interior counties	7,207	7,694	930	918	12.9	11.9
Metropolitan area	10,258	10,525	1,355	1,365	13.2	13.0
Rural counties	11,287	11,768	1,452	1,418	12.9	12.0

This table shows that in Southern California each year 19.8 per cent, or about one fifth, of all deaths were from tuberculosis. For Los Angeles County the per cents were 19.8 and 19.6 in 1909 and 1908, while for the other counties south of Tehachapi the per cents were respectively 19.8 and 20.2.

North of Tehachapi only about one eighth of the deaths are due to tuberculosis, the per cents for Northern and Central California together being 13.0 in 1909 and 12.5 in 1908. The per cents for 1909 and 1908, respectively, were 13.4 and 13.1 for Central California and 11.5 and 9.6 for Northern California, the prevalence of tuberculosis decreasing more and more toward the north. The per cent was below the State average each year for every main and minor geographic division north of Tehachapi, being lowest of all in 1909 for the coast counties of Northern California, 11.1, and in 1908 for the interior counties of Northern California, only 9.0.

The per cents were somewhat greater for the metropolitan area comprising San Francisco and the other bay counties, 13.2 in 1909 and 13.0 in 1908, than for the rural counties north of Tehachapi, 12.9 and 12.0, respectively. The per cents were also greater for the metropolis proper, 13.4 and 13.5, than for the suburban counties, 13.0 and 12.2.

Cities.—The following table gives the number and per cent of deaths from tuberculosis in 1909 and 1908 for chartered cities in contrast with the rest of the State, as well as for the individual cities:

TABLE 14.—*Number and Per Cent of Deaths from Tuberculosis, for Individual Cities and Rest of State: 1909 and 1908.*

CITY.	Deaths.		Tuberculosis.			
			Number.		Per Cent.	
	1909.	1908.	1909.	1908.	1909.	1908.
CALIFORNIA	30,985	31,287	4,673	4,565	15.1	14.6
Freeholders' charter cities	17,472*	17,480†	2,598*	2,620†	14.9*	15.0†
Northern California.						
Eureka	180	198	14	25	7.8	12.6
Napa	70	77	5	8	7.1	10.4
Santa Rosa	105	107	13	12	12.4	11.2
Grass Valley	58	88	9	8	15.5	9.1
Central California.						
San Francisco	6,150	6,260	822	845	13.4	13.5
Alameda	309	345	34	30	11.0	8.7
Berkeley	405	448	44	49	10.9	10.9
Oakland	1,642	1,646	215	195	13.1	11.8
Richmond	92	--------	8	--------	8.7	--------
Salinas	68	63	10	8	14.7	12.7
Palo Alto	48	--------	6	--------	12.5	--------
San Jose	386	389	55	58	14.2	14.9
Santa Cruz	190	167	27	17	14.2	10.2
Watsonville	103	103	13	18	12.6	17.5
Fresno	288	365	32	61	11.1	16.7
Sacramento	698	755	89	89	12.8	11.9
Stockton	455	481	75	80	16.5	16.6
Vallejo	172	192	21	19	12.2	9.9
Southern California.						
Los Angeles	4,013	3,752	741	700	18.5	18.7
Long Beach	235	219	19	18	8.1	8.2
Pasadena	410	373	101	113	24.6	30.3
Santa Monica	103	110	14	9	13.6	8.2
Riverside	238	204	51	43	21.4	21.1
San Bernardino	250	262	66	69	26.4	26.3
San Diego	601	701	93	125	15.5	17.8
Santa Barbara	203	175	21	21	10.3	12.0
Rest of State	13,513	13,807	2,075	1,945	15.4	14.1

*26 Freeholders' charter cities. †24 Freeholders' charter cities.

In the twenty-six freeholders' charter cities in 1909 the deaths from tuberculosis numbered 2,598, or 14.9 per cent of all, and in the twenty-four chartered cities in 1908 the deaths from this disease totaled 2,620, or 15.0 per cent. In the State outside cities the deaths from tuberculosis were 2,075, or 15.4 per cent of all, in 1909 and 1,945, or 14.1 per cent, in 1908.

The number and per cent of deaths from tuberculosis in the whole State were somewhat greater for 1909 (4,673 or 15.1 per cent) than for 1908 (4,565 or 14.6 per cent). This increase in the mortality from tuberculosis was confined to the population outside chartered cities, as the figures for cities as a class were substantially the same each year.

The individual cities in which the per cents of deaths from tuberculosis were above the city averages of 14.9 and 15.0 for 1909 and 1908, respectively, were as follows: San Bernardino, 26.4 and 26.3; Pasadena, 24.6 and 30.3; Riverside, 21.4 and 21.1; Los Angeles, 18.5 and

18.7; Stockton, 16.5 and 16.6, and San Diego, 15.5 and 17.8. In 1909 alone, the per cent was also above the city average for Grass Valley, 15.5, and in 1908 alone, the per cents were likewise above the city average for Watsonville, 17.5, and for Fresno, 16.7.

Length of Residence (Geographic Divisions).—The heavy mortality from tuberculosis in California is due largely to the immigration of people so badly afflicted with this disease that they can not recover, even under the most favorable climatic conditions, though they may lengthen their lives somewhat by coming to this land of sunshine. For it appears that many who died of tuberculosis in California had been residents of the Golden State for only a short time. This is shown for the several geographic divisions in 1909 and 1908 in the following table, giving numbers and per cents by length of residence:

TABLE 15.—*Deaths from Tuberculosis classified by Length of Residence in California, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Total.	Length of Residence.					Per Cent.				
		Under 1 Year.	1 to 9 Years.	10 Years and Over.	Life.	Unknown.	Under 1 Year	1 to 9 Years.	10 Years and Over.	Life.	Unknown.
1909.											
THE STATE	4,673	385	1,096	1,151	1,411	630	8.2	23.5	24.6	30.2	13.5
Northern California	452	6	43	180	171	52	1.3	9.5	39.8	37.9	11.5
Coast counties	213	2	21	85	88	17	0.9	9.9	39.9	41.3	8.0
Interior counties	239	4	22	95	83	35	1.7	9.2	39.8	34.7	14.6
Central California	2,355	73	336	602	922	422	3.1	14.3	25.6	39.1	17.9
San Francisco	822	17	58	166	360	221	2.1	7.0	20.2	43.8	26.9
Other bay counties	533	17	85	153	230	48	3.2	15.9	28.7	43.2	9.0
Coast counties	309	9	45	72	153	30	2.9	14.6	23.3	49.5	9.7
Interior counties	691	30	148	211	179	123	4.4	21.4	30.5	25.9	17.8
Southern California	1,866	306	717	369	318	156	16.4	38.4	19.8	17.0	8.4
Los Angeles	1,263	219	487	257	186	114	17.4	38.6	20.3	14.7	9.0
Other counties	603	87	230	112	132	42	14.4	38.1	18.6	21.9	7.0
Northern and Central California	2,807	79	379	782	1,093	474	2.8	13.5	27.9	38.9	16.9
Coast counties	1,877	45	209	476	831	316	2.4	11.1	25.4	44.3	16.8
Interior counties	930	34	170	306	262	158	3.6	18.3	32.9	28.2	17.0
Metropolitan area	1,355	34	143	319	590	269	2.5	10.6	23.5	43.5	19.9
Rural counties	1,452	45	236	463	503	205	3.1	16.3	31.9	34.6	14.1
1908.											
THE STATE	4,565	402	1,006	1,140	1,333	684	8.8	22.0	25.0	29.2	15.0
Northern California	400	12	45	150	145	48	3.0	11.3	37.5	36.2	12.0
Coast counties	202	4	20	76	78	24	2.0	9.9	37.6	38.6	11.9
Interior counties	198	8	25	74	67	24	4.1	12.6	37.4	33.8	12.1
Central California	2,383	82	333	676	908	384	3.4	14.0	28.4	38.1	16.1
San Francisco	845	20	96	204	319	206	2.4	11.4	24.1	37.7	24.4
Other bay counties	520	20	70	166	221	43	3.8	13.5	31.9	42.5	8.3
Coast counties	298	7	42	95	133	21	2.4	14.1	31.9	44.6	7.0
Interior counties	720	35	125	211	235	114	4.9	17.4	29.3	32.6	15.8
Southern California	1,782	308	628	314	280	252	17.3	35.2	17.6	15.7	14.2
Los Angeles	1,179	191	421	197	160	210	16.2	35.7	16.7	13.6	17.8
Other counties	603	117	207	117	120	42	19.4	34.3	19.4	19.9	7.0
Northern and Central California	2,783	94	378	826	1,053	432	3.4	13.6	29.7	37.8	15.5
Coast counties	1,865	51	228	541	751	294	2.7	12.2	29.0	40.3	15.8
Interior counties	918	43	150	285	302	138	4.7	16.3	31.1	32.9	15.0
Metropolitan area	1,365	40	166	370	540	249	2.9	12.2	27.1	39.6	18.2
Rural counties	1,418	54	212	456	513	183	3.8	14.9	32.2	36.2	12.9

This table shows that the per cent of tuberculosis victims in California who were natives of the State, having been here for life, was only 30.2 for 1909 and 29.2 for 1908. The per cent born elsewhere, but who were residents of 10 years' standing, was 24.6 for 1909 and 25.0 for 1908, while the per cents for those who had lived in California only from 1 to 9 years were 23.5 and 22.0 for 1909 and 1908, respectively. In 1909, 8.2 per cent, and in 1908, 8.8 per cent, of all the deaths from tuberculosis were of persons who had been in the State less than a year. The length of residence was unknown for 13.5 per cent of the tuberculosis victims in 1909 and for 15.0 per cent in 1908.

The per cent for natives of the State was 39.1 in 1909 and 38.1 in 1908 for Central California, while the corresponding per cents for Northern California were 37.9 and 36.2, respectively. The per cents were 38.9 and 37.8 for the counties north of Tehachapi, against only 17.0 and 15.7 for those to the south. The per cent of tuberculosis victims born in the State was 43.5 for the metropolitan area in 1909 and 39.6 in 1908 as compared with, respectively, 34.6 and 36.2 for the rural counties north of Tehachapi.

The deaths from tuberculosis among residents of 10 years' standing were 39.8 and 37.5 per cent for Northern California and 25.6 and 28.4 for Central California in 1909 and 1908, respectively. For Northern and Central California together the per cents were 27.9 and 29.7 as compared with only 19.8 and 17.6 for Southern California. North of Tehachapi the per cents in 1909 and 1908, respectively, were 23.5 and 27.1 for the metropolitan area against 31.9 and 32.2 for the rural counties.

In 1909 altogether 31.9 per cent of the deaths occurred among residents of less than 10 years' standing, 23.5 per cent having lived here from 1 to 9 years and 8.2 per cent under 1 year. In 1908, similarly, 22.0 per cent had been here from 1 to 9 years and 8.8 per cent under 1 year, or altogether 30.8 per cent had resided in California less than 10 years.

The per cents for residents of less than 10 years' standing are above the State averages only for Southern California, 54.8 in 1909 and 52.5 in 1908. The per cents were 56.0 and 51.9 for Los Angeles and 52.5 and 53.7 for the other counties south of Tehachapi in 1909 and 1908, respectively. On the other hand, the corresponding per cents were only 16.3 and 17.0 for the counties north of Tehachapi, being 17.4 each year for Central California and 10.8 in 1909 and 14.3 in 1908 for Northern California. The per cent of deaths among persons who had lived in California less than 10 years was 13.1 for the metropolitan area in 1909 and 15.1 in 1908 as compared with, respectively, 19.4 and 18.7 for the rural counties.

It seems, therefore, that in Southern California, where about one fifth of all deaths are from tuberculosis, considerably more than half of these deaths occur among persons who had been in the State less than 10 years when they died. In fact, about one sixth of all tuberculosis victims south of Tehachapi had resided in California less than a year, the per cent being 16.4 for 1909 and 17.3 in 1908. The per cents were 17.4 and 16.2 for Los Angeles and 14.4 and 19.4 for the other counties in 1909 and 1908, respectively.

Length of Residence (*Cities*).—The preceding figures on length of residence for geographic divisions are supplemented by those in the following table for the several chartered cities in contrast with the rest of the State, the cities being arranged according to geographic location:

TABLE 16.—*Deaths from Tuberculosis classified by Length of Residence in California, with Per Cents, for Individual Cities and Rest of State: 1909 and 1908.*

CITY	Total.	Length of Residence					Per Cent.				
		Under 1 Year	1 to 9 Years.	10 Years and Over	Life.	Un-known.	Under 1 Year.	1 to 9 Yeasr.	10 Years and Over	Life.	Un-known.
1909.											
CALIFORNIA	4,673	385	1,096	1,151	1,411	630	8.2	23.5	24.6	30.2	13.5
26 Freeholders' charter cities	2,598	212	625	628	797	336	8.2	24.0	24.2	30.7	12.9
Northern California.											
Eureka	14	1	1	2	8	2	7.1*	7.1*	14.3*	57.2*	14.3*†
Napa	5	------	2	2	1	------	------	40.0*	40.0*	20.0*	------
Santa Rosa	13	------	1	7	5	------	------	7.7*	53.8*	38.5*	------
Grass Valley	9	------	3	5	------	1	------	33.3*	55.6*	------	11.1*†
Central California.											
San Francisco	822	17	58	166	360	221	2.1	7.0	20.2	43.8	26.9†
Alameda	34	------	3	14	16	1	------	8.8	41.2	47.1	2.9
Berkeley	44	------	8	9	26	1	------	18.2	20.4	59.1	2.3
Oakland	215	7	27	75	87	19	3.2	12.6	34.9	40.5	8.8
Richmond	8	------	4	1	1	2	------	50.0*	12.5*	12.5*	25.0*†
Salinas	10	------	2	2	6	------	------	20.0*	20.0*	60.0*	
Palo Alto	6	1	1	------	4	------	16.7*	16.6*	------	66.7*	------
San Jose	55	1	14	12	27	1	1.8	25.5	21.8	49.1	1.8
Santa Cruz	27	1	4	6	13	3	3.7	14.8	22.2	48.2	11.1†
Watsonville	13	1	1	7	4	------	7.7*	7.7*	53.8*	30.8*	------
Fresno	32	1	6	11	11	3	3.1	18.7	34.4	34.4	9.4
Sacramento	89	3	19	33	31	3	3.4	21.3	37.1	34.8	3.4
Stockton	75	------	19	31	20	5	------	25.3	41.3	26.7	6.7
Vallejo	21	1	2	4	12	2	4.8*	9.5*	19.1*	57.1*	9.5*
Southern California.											
Los Angeles	741	126	285	169	108	53	17.0	38.5	22.8	14.6	7.1
Long Beach	19	3	9	6	1	------	15.8*	47.4*	31.6*	5.2*	------
Pasadena	101	14	63	16	6	2	13.9	62.4	15.8	5.9	2.0
Santa Monica	14	1	4	7	2	------	7.1*	28.6*	50.0*	14.3*	------
Riverside	51	9	21	6	12	3	17.6	41.2	11.8	23.5	5.9
San Bernardino	66	6	30	10	9	11	9.1	45.5	15.1	13.6	16.7†
San Diego	93	19	35	21	16	2	20.4	37.6	22.6	17.2	2.2
Santa Barbara	21	------	3	6	11	1	------	14.3*	28.5*	52.4*	4.8*
Rest of State	2,075	173	471	523	614	294	8.3	22.7	25.2	29.6	14.2
1908.											
CALIFORNIA	4,565	402	1,006	1,140	1,333	684	8.8	22.0	25.0	29.2	15.0
24 Freeholders' charter cities	2,620	228	586	637	725	444	8.7	22.4	24.3	27.7	16.9
Northern California.											
Eureka	25	1	2	7	14	1	4.0	8.0	28.0	56.0	4.0
Napa	8	1	------	3	2	2	12.5*	-----*	37.5*	25.0*	25.0*†
Santa Rosa	12	------	2	2	7	1	-----*	16.7*	16.7*	58.3*	8.3*
Grass Valley	8	------	------	4	3	1	-----*	-----*	50.0*	37.5*	12.5*†
Central California.											
San Francisco	845	20	96	204	310	206	2.4	11.4	24.1	37.7	24.4†
Alameda	30	3	------	15	11	1	10.0	------	50.0	36.7	3.3
Berkeley	49	3	12	13	20	1	6.1	24.5	26.6	40.8	2.0
Oakland	195	6	27	70	76	16	3.1	13.8	35.9	39.0	8.2
Salinas	8	------	------	1	7	------	-----*	-----*	12.5*	87.5*	----*
San Jose	58	4	8	22	23	1	6.9	13.8	37.9	39.7	1.7
Santa Cruz	17	1	3	7	4	2	5.9*	17.6*	41.2*	23.5*	11.8*†
Watsonville	18	------	2	6	9	1	-----*	11.1*	33.3*	50.0*	5.6*
Fresno	61	1	14	22	20	4	1.6	22.9	36.1	32.8	6.6
Sacramento	89	3	20	26	33	7	3.4	22.5	29.2	37.1	7.8
Stockton	80	1	13	39	18	9	1.2	16.3	48.8	22.5	11.2†
Vallejo	19	2	------	4	11	2	10.5*	-----*	21.1*	57.9*	10.5*†
Southern California.											
Los Angeles	700	93	220	126	97	164	13.3	31.4	18.0	13.9	23.4†
Long Beach	18	7	10	------	1	------	38.9*	55.6*	-----*	5.5*	----*
Pasadena	113	28	59	13	11	2	24.8	52.2	11.5	9.7	1.8
Santa Monica	9	1	4	2	1	1	11.1*	44.5*	22.2*	11.1*	11.1*†
Riverside	43	11	19	5	7	1	25.6	44.2	11.6	16.3	2.3
San Bernardino	69	12	26	14	6	11	17.4	37.7	20.3	8.7	15.9†
San Diego	125	26	46	30	18	5	20.8	36.8	24.0	14.4	4.0
Santa Barbara	21	4	3	2	7	5	19.1*	14.3*	9.5*	33.3*	23.8*†
Rest of State	1,945	174	420	503	608	240	8.9	21.6	25.9	31.3	12.3

*Per cents affected by smallness of base (less than 25).

†Large per cent unknown, due to incompleteness of original certificates.

It appears from this table that the distribution of tuberculosis deaths according to length of residence in California is not far from the same for chartered cities as for all the rest of the State. The per cents for native Californians in 1909 and 1908, respectively, were 30.7 and 27.7 for cities as compared with 29.6 and 31.3 for the rest of the State. For residents of 10 years' standing and over the per cents within cities were 24.2 and 24.3 against 25.2 and 25.9 outside cities, while for residents of less than 10 years' standing the per cents were altogether 32.2 and 31.1 in cities against 31.0 and 30.5 outside them. The length of residence was unknown in 12.9 per cent of the deaths in cities in 1909 and in 16.9 per cent in 1908 as compared with 14.2 and 12.3 per cent, respectively, for the rest of the State.

Several of the cities in Southern California show a large proportion of deaths from tuberculosis among persons who had lived in California a comparatively short time. For residents of less than 10 years' standing the per cents in 1909 and 1908 totaled as much as 76.3 and 77.0 for Pasadena; 58.8 and 69.8 for Riverside; 58.0 and 57.6 for San Diego; 54.6 and 55.1 for San Bernardino; and 55.7 and 44.7 for Los Angeles.

Moreover, the per cent of tuberculosis victims who had lived in California less than a year was quite high in cities of Southern California, as follows: San Diego, 20.4 in 1909 and 20.8 in 1908; Riverside, 17.6 and 25.6; Los Angeles, 17.0 and 13.3; Pasadena, 13.9 and 24.8; and San Bernardino, 9.1 and 17.4.

Southern California.—In fact, many who died of tuberculosis in Southern California cities or in the whole territory south of Tehachapi had lived in the State only a few months. This appears clearly from the following table giving numbers and per cents by length of residence in months for Southern California in 1909 and 1908:

TABLE 17.—*Deaths from Tuberculosis Classified by Length of Residence (in Months), with Per Cents, for Southern California: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Length of Residence.									
	Total Under 1 year.		Under 1 Month		1 to 2 Months.		3 to 5 Months.		6 to 11 Months.	
	1909.	1908.	1909.	1908.	1909.	1908.	1909	1908.	1909.	1908.
NUMBERS.										
Southern California	306	308	37	36	93	81	78	96	98	95
Los Angeles	219	191	24	23	66	45	56	58	73	65
Other counties	87	117	13	13	27	36	22	38	25	30
PER CENTS.										
Southern California	16.4	17.3	2.0	2.0	5.0	4.6	4.2	5.4	5.2	5.3
Los Angeles	17.4	16.2	1.9	2.0	5.2	3.8	4.5	4.9	5.8	5.5
Other counties	14.4	19.4	2.2	2.1	4.5	6.0	3.6	6.3	4.1	5.0

The table shows that of all who died of tuberculosis in Southern California in 1909, 2.0 per cent had been in the State less than a month, altogether 7.0 per cent less than three months, and altogether 11.2 per cent less than six months. In 1908, similarly, 2.0 per cent had lived here under a month, altogether 6.6 per cent under three months, and altogether 12.0 per cent under six months. Of all the tuberculosis victims in Los Angeles in 1909, 11.6 per cent, and in 1908 10.7 per cent, had resided in California less than half a year. The corresponding per cents for the other counties south of Tehachapi are 10.3 for 1909 and 14.4 for 1908.

Conclusion.—These figures give only a minimum statement of the extent to which the general death-rate of California is swollen by the deaths of persons who were stricken with tuberculosis elsewhere, and who simply came here in the hope of recovering, or with the expectation of at least lengthening their lives in the glorious climate of the Golden State. The statistics cover only the deaths that occur among these recent residents, in many cases quite soon after their arrival in this land of sunshine. No data are available to tell what proportion of deaths from tuberculosis among native Californians and old-time residents are directly due to imported infection by the presence here of sick people from other places. It is quite evident, however, that the death-rate of California is swollen somewhat by the unhealthfulness, not of this State, but of other states, being increased, in fact, by the wide fame of California as a curative health resort. For the leading single cause of death the State is one which finds most of its victims among newcomers seeking restored health and finding longer, happier life in the balmy atmosphere of California.

DEATHS BY SEX, RACE, NATIVITY, AND AGE PERIODS.

Sex.—The proportion of the sexes among decedents is given in the following table for the several geographic divisions in 1909 and 1908, both numbers and per cents being shown:

TABLE 18.—*Deaths Classified by Sex, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Deaths.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908.	1909.	1908	1909.	1908.	1909.	1908.
THE STATE	30,985	31,287	19,324	19,469	11,661	11,818	62.4	62.2	37.6	37.8
Northern California	3,946	4,148	2,692	2,785	1,254	1,363	68.2	67.1	31.8	32.9
Coast counties	1,913	1,943	1,225	1,251	688	692	64.0	64.4	36.0	35.6
Interior counties	2,033	2,205	1,467	1,534	566	671	72.2	69.6	27.8	30.4
Central California	17,599	18,145	11,004	11,355	6,595	6,790	62.5	62.6	37.5	37.4
San Francisco	6,150	6,260	3,783	3,914	2,367	2,346	61.5	62.5	38.5	37.5
Other bay counties	4,108	4,265	2,429	2,524	1,679	1,741	59.1	59.2	40.9	40.8
Coast counties	2,167	2,131	1,302	1,294	865	837	60.1	60.7	39.9	39.3
Interior counties	5,174	5,489	3,490	3,623	1,684	1,866	67.5	66.0	32.5	34.0
Southern California	9,440	8,994	5,628	5,329	3,812	3,665	59.6	59.2	40.4	40.8
Los Angeles	6,392	6,011	3,732	3,516	2,660	2,495	58.4	58.5	41.6	41.5
Other counties	3,048	2,983	1,896	1,813	1,152	1,170	62.2	60.8	37.8	39.2
Northern and Central California	21,545	22,293	13,696	14.140	7,849	8,153	63.6	63.4	36.4	36.6
Coast counties	14,338	14,599	8,739	8,983	5,599	5,616	60.9	61.5	39.1	38.5
Interior counties	7,207	7,694	4,957	5,157	2,250	2,537	68.8	67.0	31.2	33.0
Metropolitan area	10,258	10,525	6,212	6,438	4,046	4,087	60.6	61.2	39.4	38.8
Rural counties	11,287	11,768	7,484	7,702	3,803	4,066	66.3	65.4	33.7	34.6

It appears from this table that of the 30,985 persons who died in California in 1909, 19,324, or 62.4 per cent, were male, and 11,661, or 37.6 per cent, were female. Among the 31,287 decedents in 1908, the males were 19,469, or 62.2 per cent, and the females were 11,818, or

37.8 per cent. There was an increase of 0.2 in the per cent male, and a corresponding decrease of 0.2 in the per cent female, among decedents in the State as a whole.

Each year the per cent male was highest for Northern California, 68.2 in 1909 and 67.1 in 1908, and next for Central California, 62.5 and 62.6, the per cents being 63.6 and 63.4 for Northern and Central California together against only 59.6 and 59.2 for Southern California.

The per cents male were highest among minor geographic divisions for the interior counties of Northern California, 72.2 and 69.6; next for the interior counties of Central California, 67.5 and 66.0; and next for the coast counties of Northern California, 64.0 and 64.4. The per cents male were lowest of all each year for Los Angeles, 58.4 in 1909 and 58.5 in 1908.

The per cents male were much less each year for the metropolitan area (60.6 and 61.2) than for the rural counties north of Tehachapi (66.3 and 65.4), but were somewhat greater for San Francisco alone (61.5 and 62.5) than for the group of other bay counties (59.1 and 59.2).

Sex and Cause of Death.—The following table shows for California as a whole in both 1909 and 1908, the deaths from certain principal causes classified by sex, with the per cents male and female:

TABLE 19.—*Deaths from Centain Principal Causes Classified by Sex, with Per Cents, for California: 1909 and 1908.*

CAUSE OF DEATH.	Deaths.						Per Cent Male.		Per Cent Female.	
	Total.		Male.		Female.					
	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
ALL CAUSES	30,985	31,287	19,324	19,469	11,661	11,818	62.4	62.2	37.6	37.8
Typhoid fever	461	540	305	348	156	192	66.2	64.4	33.8	35.6
Malarial fever	112	80	78	48	34	32	69.6	60.0	30.4	40.0
Smallpox	6	9	4	5	2	4	66.7	55.6	33.3	44.4
Measles	119	101	57	58	62	43	47.9	57.4	52.1	42.6
Scarlet fever	69	104	33	59	36	45	47.8	56.7	52.2	43.3
Whooping-cough	217	149	106	69	111	80	48.8	46.3	51.2	53.7
Diphtheria and croup	248	391	130	204	118	187	52.4	52.2	47.6	47.8
Influenza	82	125	42	72	40	53	51.2	57.6	48.8	42.4
Plague	1	5	1	3	--------	2	100.0	60.0	------	40.0
Other epidemic diseases	108	126	80	74	28	52	74.1	58.7	25.9	41.3
Tuberculosis of lungs	4,061	3,945	2,672	2,576	1,389	1,369	65.8	65.3	34.2	34.7
Tuberculosis of other organs	612	620	329	365	283	255	53.8	58.9	46.2	41.1
Cancer	1,945	1,737	948	839	997	898	48.7	48.3	51.3	51.7
Other general diseases	1,177	1,186	717	722	460	464	60.9	60.9	39.1	39.1
Meningitis	398	571	221	352	177	219	55.5	61.6	44.5	38.4
Other diseases of nervous system	2,479	2,422	1,534	1,506	945	916	61.9	62.2	38.1	37.8
Diseases of circulatory system	4,966	4,540	3,202	2,875	1,764	1,665	64.5	63.3	35.5	36.7
Pneumonia and broncho-pneumonia	2,081	2,421	1,263	1,502	818	919	60.7	62.0	39.3	38.0
Other diseases of respiratory system	842	861	493	522	349	339	58.6	60.6	41.4	39.4
Diarrhea and enteritis, under 2 years	966	922	546	506	420	416	56.5	54.9	43.5	45.1
Diarrhea and enteritis, 2 years and over	270	243	144	127	126	116	53.3	52.3	46.7	47.7
Other diseases of digestive system	1,596	1,646	996	996	600	650	62.4	60.5	37.6	39.5
Bright's disease and nephritis	1,858	1,797	1,197	1,094	661	703	64.4	60.9	35.6	39.1
Childbirth	300	339	--------	--------	300	339	------	------	100.0	100.0
Diseases of early infancy	998	1,108	574	644	424	464	57.5	58.1	42.5	41.9
Suicide	702	757	591	637	111	120	84.2	84.1	15.8	15.9
Other violence	2,563	2,569	2,107	2,142	456	427	82.2	83.4	17.8	16.6
All other causes	1,748	1,973	954	1,124	794	849	54.6	57.0	45.4	43.0

This table shows that in both 1909 and 1908 the per cents male were highest for deaths from the following important causes: Suicide, 84.2 and 84.1; other violence, 82.2 and 83.4; typhoid fever, 66.2 and 64.4; tuberculosis of the lungs, 65.8 and 65.3; and diseases of the circulatory system, 64.5 and 63.3. The per cent male was also above the general average in 1909 alone for deaths from malarial fever, 69.6, and from Bright's disease and nephritis, 64.4.

On the other hand, except of course for deaths from childbirth, the per cent female was notably high each year only for cancer (51.3 and 51.7) and for whooping-cough (51.2 and 53.7). The per cent female was also quite high in 1909 alone for deaths from scarlet fever (52.2) and from measles (52.1). In all other cases the male decedents outnumbered the female, for some diseases greatly.

Race.—The race distribution of persons dying in the several geographic divisions in 1909 and 1908 is given in the following table, together with the per cent white among decedents:

TABLE 20.—*Deaths Classified by Race, with Per Cent White, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISIONS.	Deaths.						Per Cent White.
	Total.	White.	Negro.	Indian.	Chinese.	Japanese.	
1909.							
THE STATE	30,985	29,323	388	130	694	450	94.6
Northern California	3,946	3,706	22	80	114	24	93.9
Coast counties	1,913	1,838	10	35	22	8	96.1
Interior counties	2,033	1,868	12	45	92	16	91.9
Central California	17,599	16,545	195	33	516	310	94.0
San Francisco	6,150	5,873	41	--------	188	48	95.5
Other bay counties	4,108	3,883	72	4	118	31	94.5
Coast counties	2,167	2,045	17	2	37	66	94.4
Interior counties	5,174	4,744	65	27	173	165	91.7
Southern California	9,440	9,072	171	17	64	116	96.1
Los Angeles	6,392	6,117	135	4	45	91	95.7
Other counties	3,048	2,955	36	13	19	25	97.0
Northern and Central California	21,545	20,251	217	113	630	334	94.0
Coast counties	14,338	13,639	140	41	365	153	95.1
Interior counties	7,207	6,612	77	72	265	181	91.7
Metropolitan area	10,258	9,756	113	4	306	79	95.1
Rural counties	11,287	10,495	104	109	324	255	93.0
1908.							
THE STATE	31,287	29,673	360	126	697	431	94.8
Northern California	4,148	3,952	27	66	80	23	95.3
Coast counties	1,943	1,874	3	38	16	12	96.4
Interior counties	2,205	2,078	24	28	64	11	94.2
Central California	18,145	17,075	178	30	549	313	94.1
San Francisco	6,260	5,991	54	--------	157	58	95.7
Other bay counties	4,265	4,004	64	4	155	38	93.9
Coast counties	2,131	2,009	15	4	54	49	94.3
Interior counties	5,489	5,071	45	22	183	168	92.4
Southern California	8,994	8,646	155	30	68	95	96.1
Los Angeles	6,011	5,741	137	6	54	73	95.5
Other counties	2,983	2,905	18	24	14	22	97.4
Northern and Central California	22,293	21,027	205	96	629	336	94.3
Coast counties	14,599	13,878	136	46	382	157	95.1
Interior counties	7,694	7,149	69	50	247	179	92.9
Metropolitan area	10,525	9,995	118	4	312	96	95.0
Rural counties	11,768	11,032	87	92	317	240	93.7

This table shows that in 1909 the white decedents numbered 29,323, or 94.6 per cent of all; the Chinese, 694; the Japanese, 450; the negroes, 388; and the Indians, 130. For 1908 the figures were as follows: White, 29,673, or 94.8 per cent of all; Chinese, 697; Japanese, 431; negro, 360; and Indian, 126.

The per cent white was substantially the same each year, 94.6 in 1909 and 94.8 in 1908, for the State as a whole. The per cent white was 96.1 each year for Southern California, as compared with 94.0 in 1909 and 94.3 in 1908 for Northern and Central California together, the per cents for Central California being, respectively, 94.0 and 94.1 and for Northern California, 93.9 and 95.3.

Among minor geographic divisions, the per cents white were above the State averages (94.6 in 1909 and 94.8 in 1908) in the following cases: Southern California outside Los Angeles, 97.0 and 97.4; coast counties of Northern California, 96.1 and 96.4; Los Angeles, 95.7 and 95.5; and San Francisco, 95.5 and 95.7.

The per cent white was greater each year for the metropolitan area (95.1 and 95.0) than for the rural counties north of Tehachapi (93.0 and 93.7), and was also greater for the metropolis proper (95.5 and 95.7) than for the suburban counties (94.5 and 93.9).

Each year the deaths among Chinese occurred mainly in San Francisco and suburbs and in the interior counties of Central California. The deaths of Japanese occurred mainly in the interior counties of Central California and also in Los Angeles. The number of negro decedents was particularly great only for Los Angeles in both years.

Race and Cause of Death.—The following table shows for California in 1909 and 1908 the deaths from centain principal causes classified by race, as well as the per cent white in each case:

TABLE 21.—*Deaths from Certain Principal Causes Classified by Race, with Per Cent White, for California: 1909 and 1908.*

CAUSE OF DEATH.	Deaths.						Per Cent White.
	Total.	White.	Negro.	Indian.	Chinese.	Japanese.	
1909.							
ALL CAUSES	30,985	29,323	388	130	694	450	94.6
Typhoid fever	461	406	7	2	9	37	88.1
Malarial fever	112	93	3	1	8	7	83.0
Smallpox	6	6	---------	---------	---------	---------	100.0
Measles	119	114	1	---------	4	---------	95.8
Scarlet fever	69	68	---------	---------	1	---------	98.6
Whooping-cough	217	202	3	5	5	2	93.1
Diphtheria and croup	248	239	1	---------	4	4	96.4
Influenza	82	81	---------	---------	1	---------	98.8
Plague	1	1	---------	---------	---------	---------	100.0
Other epidemic diseases	108	94	---------	---------	6	8	87.0
Tuberculosis of lungs	4,061	3,682	92	28	189	70	90.7
Tuberculosis of other organs	612	560	11	3	6	32	91.5
Cancer	1,945	1,893	14	1	31	6	97.3
Other general diseases	1,177	1,126	11	6	29	5	95.7
Meningitis	398	372	3	1	3	19	93.5
Other diseases of nervous system	2,479	2,398	27	5	30	19	96.7
Diseases of circulatory system	4,966	4,798	44	5	108	11	96.6
Pneumonia and broncho-pneumonia	2,081	1,953	32	15	51	30	93.8
Other diseases of respiratory system	842	794	5	2	21	20	94.3
Diarrhea and enteritis, under 2 years	966	910	13	4	11	28	94.2
Diarrhea and enteritis, 2 years and over	270	255	4	1	6	4	94.4
Other diseases of digestive system	1,596	1,527	13	4	30	22	95.6
Bright's disease and nephritis	1,858	1,774	29	4	37	14	95.5
Childbirth	300	280	4	5	2	9	93.3
Diseases of early infancy	998	951	10	3	7	27	95.3
Suicide	702	656	9	4	17	16	93.4
Other violence	2,563	2,425	35	18	43	42	94.6
All other causes	1,748	1,665	17	13	35	18	95.3
1908.							
ALL CAUSES	31,287	29,673	360	126	697	431	94.8
Typhoid fever	540	474	7	4	6	49	87.8
Malarial fever	80	77	2	---------	1	---------	96.3
Smallpox	9	9	---------	---------	---------	---------	100.0
Measles	101	99	---------	2	---------	---------	98.0
Scarlet fever	104	102	1	---------	1	---------	98.1
Whooping-cough	149	145	3	---------	1	---------	97.3
Diphtheria and croup	391	384	5	1	---------	1	98.2
Influenza	125	124	1	---------	---------	---------	99.2
Plague	5	4	---------	---------	---------	1	80.0
Other epidemic diseases	126	112	1	---------	7	6	88.9
Tuberculosis of lungs	3,945	3,589	73	33	193	57	91.0
Tuberculosis of other organs	620	577	11	6	9	17	93.1
Cancer	1,737	1,685	11	1	32	8	97.0
Other general diseases	1,186	1,139	7	5	28	7	96.0
Meningitis	571	524	9	4	4	30	91.8
Other diseases of nervous system	2,422	2,355	21	2	37	7	97.2
Diseases of circulatory system	4,540	4,369	47	9	93	22	96.2
Pneumonia and broncho-pneumonia	2,421	2,304	32	10	50	25	95.2
Other diseases of respiratory system	861	825	5	---------	15	16	95.8
Diarrhea and enteritis, under 2 years	922	872	5	3	11	31	94.6
Diarrhea and enteritis, 2 years and over	243	228	4	1	7	3	93.8
Other diseases of digestive system	1,646	1,545	24	5	37	35	93.9
Bright's disease and nephritis	1,797	1,734	21	2	32	8	96.5
Childbirth	339	330	3	1	1	4	97.3
Diseases of early infancy	1,108	1,054	15	3	8	28	95.1
Suicide	757	703	11	1	18	24	92.9
Other violence	2,569	2,399	26	18	79	47	93.4
All other causes	1,973	1,911	15	15	27	5	96.9

The per cents white were above the general averages of 94.6 and 94.8 in 1909 and 1908 for deaths from the following important causes: Smallpox, 100.0 per cent each year; scarlet fever, 98.6 and 98.1; diphtheria and croup, 96.4 and 98.2; measles, 95.8 and 98.0; cancer, 97.3 and 97.0; diseases of the nervous system other than meningitis, 96.7 and 97.2; diseases of the circulatory system, 96.6 and 96.2; Bright's disease and nephritis, 95.5 and 96.5; and diseases of early infancy, 95.3 and 95.1.

The table shows, however, that the per cents white are very low indeed for typhoid fever, 88.1 in 1909 and 87.8 in 1908, as well as for tuberculosis of the lungs, 90.7 and 91.0, respectively. From further analysis of the figures in the table it appears that the proportion of Caucasians among all dying from typhiod fever is relatively small, because many deaths from this disease occur among the Japanese, and that the proportion of Caucasians among tuberculosis victims is relatively small, because the "great white plague" is especially fatal among Chinese and negroes.

Thus, the per cents Japanese among all dying from typhoid fever were no less than 8.0 in 1909 (37 among 461) and 9.1 in 1908 (49 among 540), while the per cents Japanese among all decedents were only 1.5 and 1.4, respectively. Likewise, the Chinese and negroes are strongly represented among the victims of pulmonary tuberculosis in California, the Chinese who died from tuberculosis of the lungs numbering 189 in 1909 and 193 in 1908, and the negroes numbering, respectively, 92 and 73. While the per cent Chinese was only 2.2 each year among all decedents in California, the per cent Chinese was no less than 4.6 in 1909 and 4.9 in 1908 for deaths from tuberculosis of the lungs. Similarly, while the per cents negro were only 1.3 and 1.2 among all decedents in 1909 and 1908, the per cents negro were as great as 2.3 and 1.9, respectively, among those dying from pulmonary tuberculosis alone.

Nativity of White Decedents.—In further analysis of deaths by race, the nativity of white decedents is worth considering. Accordingly, Table 22, on the following page, has been prepared classifying white decedents as born in California, born in other states, foreign born, or nativity unknown.

TABLE 22.—*White Decedents Classified by Nativity, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	White Decedents.					Per Cent.			
	Total	Born in California	Born in Other States	Foreign Born	Unknown	Born in California	Born in Other States	Foreign Born	Unknown
1909.									
THE STATE	29,323	8,231	10,763	9,457	872	28.1	36.7	32.2	3.0
Northern California	3,706	1,039	1,396	1,100	171	28.0	37.7	29.7	4.6
Coast counties	1,838	526	670	608	34	28.6	36.5	33.1	1.8
Interior counties	1,868	513	726	492	137	27.5	38.9	26.3	7.3
Central California	16,545	5,269	4,758	6,095	423	31.8	28.8	36.8	2.6
San Francisco	5,873	1,925	1,184	2,628	136	32.8	20.2	44.7	2.3
Other bay counties	3,883	1,295	1,105	1,401	82	33.3	28.5	36.1	2.1
Coast counties	2,045	644	712	662	27	31.5	34.8	32.4	1.3
Interior counties	4,744	1,405	1,757	1,404	178	29.6	37.0	29.6	3.8
Southern California	9,072	1,923	4,609	2,262	278	21.2	50.8	24.9	3.1
Los Angeles	6,117	1,181	3,209	1,549	178	19.3	52.5	25.3	2.9
Other counties	2,955	742	1,400	713	100	25.1	47.4	24.1	3.4
Northern and Central California	20,251	6,308	6,154	7,195	594	31.2	30.4	35.5	2.9
Coast counties	13,639	4,390	3,671	5,299	279	32.2	26.9	38.9	2.0
Interior counties	6,612	1,918	2,483	1,896	315	29.0	37.5	28.7	4.8
Metropolitan area	9,756	3,220	2,289	4,029	218	33.0	23.5	41.3	2.2
Rural counties	10,495	3,088	3,865	3,166	376	29.4	36.8	30.2	3.6
1908.									
THE STATE	29,673	8,575	10,662	9,458	978	28.9	35.9	31.9	3.3
Northern California	3,952	1,079	1,475	1,214	184	27.3	37.3	30.7	4.7
Coast counties	1,874	507	674	637	56	27.0	36.0	34.0	3.0
Interior counties	2,078	572	801	577	128	27.5	38.5	27.8	6.2
Central California	17,075	5,605	4,747	6,215	508	32.8	27.8	36.4	3.0
San Francisco	5,991	2,001	1,136	2,668	186	33.4	19.0	44.5	3.1
Other bay counties	4,004	1,323	1,145	1,416	120	33.0	28.6	35.4	3.0
Coast counties	2,009	635	683	667	24	31.6	34.0	33.2	1.2
Interior counties	5,071	1,646	1,783	1,464	178	32.4	35.2	28.9	3.5
Southern California	8,646	1,891	4,440	2,029	286	21.9	51.3	23.5	3.3
Los Angeles	5,741	1,160	3,013	1,378	190	20.2	52.5	24.0	3.3
Other counties	2,905	731	1,427	651	96	25.2	49.1	22.4	3.3
Northern and Central California	21,027	6,684	6,222	7,429	692	31.8	29.6	35.3	3.3
Coast counties	13,878	4,466	3,638	5,388	386	32.2	26.2	38.8	2.8
Interior counties	7,149	2,218	2,584	2,041	306	31.0	36.1	28.6	4.3
Metropolitan area	9,995	3,324	2,281	4,084	306	33.2	22.8	40.9	3.0
Rural counties	11,032	3,360	3,941	3,345	386	30.5	35.7	30.3	3.5

It appears from this table that of the 29,323 white decedents in 1909, 10,763, or 36.7 per cent, were born elsewhere in the United States than California; 9,457, or 32.2 per cent were foreign born; 8,231, or 28.1 per cent, were born in California; and 872, or 3.0 per cent, were of unknown nativity. Of the 29,673 white decedents in 1908, those born in other states than California were 10,662, or 35.9 per cent; the foreign born were 9,458, or 31.9 per cent; those born in California were 8,575, or 28.9 per cent; and those of unknown nativity were 978, or 3.3 per cent. There was a drop of 0.8 in the per cent born in California (28.1 in 1909 against 28.9 in 1908) and, on the other hand, a rise of 0.8 in the per cent born in other states (36.7 against 35.9). There was also a rise of 0.3 in the per cent foreign born (32.2 against 31.9), as well as a drop of 0.3 in the per cent unknown (3.0 against 3.3).

The proportion of California decedents born in other states is very high for the counties south of Tehachapi, especially Los Angeles, the per cents being 50.8 and 51.3 for Southern California in 1909 and 1908, and no less than 52.5 each year for Los Angeles alone. On the other hand, the per cents born in other states were only 30.4 and 29.6 in 1909 and 1908 for the counties north of Tehachapi, being 37.7 and 37.3 for Northern California and merely 28.8 and 27.8 for Central California. The per cents born elsewhere in the United States than in California were much less for the metropolitan area (23.5 and 22.8) than for the rural counties (36.8 and 35.7), and were also much less for San Francisco alone (20.2 and 19.0) than for the surrounding suburbs (28.5 and 28.6).

The proportion of foreign born decedents is particularly great only in Central California, where the per cent foreign born was 36.8 in 1909 and 36.4 in 1908, the per cents being only 29.7 and 30.7 for Northern California, and 24.9 and 23.5 for Southern California. For Northern and Central California together, the per cents foreign born were 35.5 and 35.3 in 1909 and 1908, being no less than 41.3 and 40.9 for the urban territory as compared with only 30.2 and 30.3 for the rural districts. The per cent of foreign born decedents in San Francisco was as great as 44.7 in 1909 and 44.5 in 1908 against 36.1 and 35.4, respectively, for the group of suburban counties.

The per cent of native Californians among white decedents was greatest each year for Central California, 31.8 in 1909 and 32.8 in 1908, and next for Northern California, 28.0 and 27.3, the per cents being 31.2 and 31.8 for both of these main divisions together in contrast with only 21.2 and 21.9 for Southern California. The per cents born in California were somewhat greater for the metropolitan area, 33.0 and 33.2, than for the rural counties north of Tehachapi, 29.4 and 30.5 in 1909 and 1908, respectively.

Nativity and Cause of Death.—The following table gives numbers and per cent showing the nativity of Caucasians dying from certain principal causes in California in 1909 and 1908:

TABLE 23.—*White Decedents Dying from Certain Principal Causes classified by Nativity, with Per Cents, for California: 1909 and 1908.*

CAUSE OF DEATH.	White Decedents.					Per Cent.			
	Total	Born in California	Born in Other States	Foreign Born	Unknown	Born in California	Born in Other States	Foreign Born	Unknown
1909.									
ALL CAUSES	29,323	8,231	10,763	9,457	872	28.1	36.7	32.2	3.0
Typhoid fever	406	168	128	102	8	41.4	31.5	25.1	2.0
Malarial fever	93	22	42	23	6	23.7	45.2	24.7	6.4
Smallpox	6	2	2	1	1	33.3	33.3	16.7	16.7
Measles	114	98	11	4	1	86.0	9.6	3.5	0.9
Scarlet fever	68	51	11	6	------	75.0	16.2	8.8	-----
Whooping-cough	202	191	9	2	------	94.6	4.4	1.0	-----
Diphtheria and croup	239	170	52	17	------	71.1	21.8	7.1	-----
Influenza	81	5	50	24	2	6.2	61.7	2.9	0.2
Plague	1	1	------	------	------	100.0	-----	-----	-----
Other epidemic diseases	94	23	24	44	3	24.5	25.5	46.8	3.2
Tuberculosis of lungs	3,682	1,024	1,446	1,143	69	27.8	39.3	31.0	1.9
Tuberculosis of other organs	560	307	150	98	5	54.8	26.8	17.5	0.9
Cancer	1,893	174	868	836	15	9.2	45.8	44.2	0.8
Other general diseases	1,126	266	445	372	43	23.6	39.5	33.1	3.8
Meningitis	372	269	66	34	3	72.3	17.8	9.1	0.8
Other diseases of nervous system	2,398	342	1,148	851	57	14.2	47.9	35.5	2.4
Diseases of circulatory system	4,798	368	2,202	2,090	138	7.7	45.9	43.5	2.9
Pneumonia and broncho-pneumonia	1,953	669	611	628	45	34.2	31.3	32.2	2.3
Other diseases of respiratory system	794	205	279	287	23	25.8	35.1	36.2	2.9
Diarrhea and enteritis, under 2 years	910	874	28	8	------	96.0	3.1	0.9	-----
Diarrhea and enteritis, 2 years and over	255	98	89	63	5	38.4	34.9	24.7	2.0
Other diseases of digestive system	1,527	358	631	503	35	23.5	41.3	32.9	2.3
Bright's disease and nephritis	1,774	257	821	655	41	14.5	46.3	36.9	2.3
Childbirth	280	111	92	77	------	39.6	32.9	27.5	-----
Diseases of early infancy	951	949	2	------	------	99.8	0.2	-----	-----
Suicide	656	116	210	234	96	17.7	32.0	35.7	14.6
Other violence	2,425	653	671	854	247	26.9	27.7	35.2	10.2
All other causes	1,665	460	675	501	29	27.6	40.5	30.1	1.8
1908.									
ALL CAUSES	29,673	8,575	10,662	9,458	978	28.9	35.9	31.9	3.3
Typhoid fever	474	195	148	126	5	41.1	31.2	26.6	1.1
Malarial fever	77	22	28	24	3	28.6	36.3	31.2	3.9
Smallpox	9	6	2	1	------	66.7	22.2	11.1	-----
Measles	99	76	19	4	------	76.8	19.2	4.0	-----
Scarlet fever	102	86	11	4	1	84.3	10.8	3.9	1.0
Whooping-cough	145	130	12	3	------	89.6	8.3	2.1	-----
Diphtheria and croup	384	295	66	18	5	76.8	17.2	4.7	1.3
Influenza	124	13	56	51	4	10.5	45.2	41.1	3.2
Plague	4	3	1	------	------	75.0	25.0	-----	-----
Other epidemic diseases	112	32	39	36	5	28.6	34.8	32.1	4.5
Tuberculosis of lungs	3,589	962	1,439	1,105	83	26.8	40.1	30.8	2.3
Tuberculosis of other organs	577	296	159	119	3	51.3	27.6	20.6	0.5
Cancer	1,685	148	759	752	26	8.8	45.1	44.6	1.5
Other general diseases	1,139	286	443	357	53	25.1	38.9	31.3	4.7
Meningitis	524	343	107	63	11	65.5	20.4	12.0	2.1
Other diseases of nervous system	2,355	330	1,137	833	55	14.0	48.3	35.4	2.3
Diseases of circulatory system	4,369	349	1,968	1,912	140	8.0	45.0	43.8	3.2
Pneumonia and broncho-pneumonia	2,304	767	723	739	75	33.3	31.4	32.1	3.2
Other diseases of respiratory system	825	196	293	318	18	23.8	35.5	38.5	2.2
Diarrhea and enteritis, under 2 years	872	841	22	9	------	96.5	2.5	1.0	-----
Diarrhea and enteritis, 2 years and over	228	95	64	65	4	41.7	28.1	28.5	1.7
Other diseases of digestive system	1,545	397	584	526	38	25.7	37.8	34.0	2.5
Bright's disease and nephritis	1,734	219	829	630	56	12.6	47.8	36.4	3.2
Childbirth	330	132	108	89	1	40.0	32.7	27.0	0.3
Diseases of early infancy	1,054	1,053	1	------	------	99.9	0.1	-----	-----
Suicide	703	137	222	243	101	19.5	31.6	34.6	14.3
Other violence	2,399	626	698	843	232	26.1	29.1	35.1	9.7
All other causes	1,911	540	724	588	59	28.2	37.9	30.8	3.1

The per cents born in California were above the general averages of 28.1 in 1909 and 28.9 in 1908 for deaths from the following important causes: Early infancy, 99.8 and 99.9; diarrhea and enteritis, under 2 years, 96.0 and 96.5; whooping-cough, 94.6 and 89.6; measles, 86.0 and 76.8; scarlet fever, 75.0 and 84.3; diphtheria and croup, 71.1 and 76.8; meningitis, 72.3 and 65.5; tuberculosis other than pulmonary, 54.8 and 51.3; typhoid fever, 41.4 and 41.1; childbirth, 39.6 and 40.0; diarrhea and enteritis, 2 years and over, 38.4 and 41.7; and pneumonia and broncho-pneumonia, 34.2 and 33.3.

The per cents born in other states were above the general averages of 36.7 and 35.9 in 1909 and 1908 for deaths from the following notable causes: Diseases of the nervous system other than meningitis, 47.9 and 48.3; Bright's disease and nephritis, 46.3 and 47.8; diseases of the circulatory system, 45.9 and 45.0; cancer, 45.8 and 45.1; malarial fever, 45.2 and 36.3; tuberculosis of the lungs, 39.3 and 40.1; diseases of the digestive system other than diarrhea, 41.3 and 37.8; and general diseases other than tuberculosis and cancer, 39.5 and 38.9.

The per cents foreign born were above the general averages of 32.2 and 31.9 in 1909 and 1908, respectively, for deaths from the following causes: Cancer, 44.2 and 44.6; diseases of the circulatory system, 43.5 and 43.8; diseases of the respiratory system other than pneumonia, 36.2 and 38.5; Bright's disease and nephritis, 36.9 and 36.4; diseases of the nervous system other than meningitis, 35.5 and 35.4; diseases of the digestive system other than diarrhea, 32.9 and 34.0; general diseases other than tuberculosis and cancer, 33.1 and 31.3; and pneumonia and broncho-pneumonia, 32.2 and 32.1.

The per cents of unknown nativity, 3.0 in 1909 and 3.3 in 1908 for all causes, are very high indeed for suicides, 14.6 and 14.3, as well as for deaths from other violence (drowning, accidental injuries, etc.), 10.2 and 9.7, respectively.

Age Periods.—The following table gives for the several geographic divisions in 1909 and 1908 the classification of decedents by selected age periods, representing in a rough way, infancy, childhood, youth, productive ages, and old age:

TABLE 24.—*Deaths classified by Age Periods, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Deaths.	Under 1 Year.	1 to 4 Years.	5 to 14 Years.	15 to 64 Years.	65 Years and Over.	Age Unknown.
1909.							
THE STATE	30,985	3,480	1,313	928	16,281	8,904	79
Northern California	3,946	334	137	119	1,984	1,347	25
Coast counties	1,913	170	70	60	937	670	6
Interior counties	2,033	164	67	59	1,047	677	19
Central California	17,599	2,096	783	518	9,255	4,910	37
San Francisco	6,150	713	300	137	3,502	1,493	5
Other bay counties	4,108	546	197	128	2,059	1,168	10
Coast counties	2,167	236	75	75	1,012	767	2
Interior counties	5,174	601	211	178	2,682	1,482	20
Southern California	9,440	1,050	393	291	5,042	2,647	17
Los Angeles	6,392	683	247	185	3,458	1,816	3
Other counties	3,048	367	146	106	1,584	831	14
Northern and Central California	21,545	2,430	920	637	11,239	6,257	62
Coast counties	14,338	1,665	642	400	7,510	4,098	23
Interior counties	7,207	765	278	237	3,729	2,159	39
Metropolitan area	10,258	1,259	497	265	5,561	2,661	15
Rural counties	11,287	1,171	423	372	5,678	3,596	47
1908.							
THE STATE	31,287	3,592	1,393	1,082	16,486	8,603	131
Northern California	4,148	337	151	175	2,046	1,401	38
Coast counties	1,943	152	74	75	943	682	17
Interior counties	2,205	185	77	100	1,103	719	21
Central California	18,145	2,268	811	607	9,571	4,822	66
San Francisco	6,260	782	279	185	3,541	1,470	3
Other bay counties	4,265	571	188	140	2,140	1,207	19
Coast counties	2,131	197	90	79	1,029	732	4
Interior counties	5,489	718	254	203	2,861	1,413	40
Southern California	8,994	987	431	300	4,869	2,380	27
Los Angeles	6,011	628	269	193	3,332	1,584	5
Other counties	2,983	359	162	107	1,537	796	22
Northern and Central California	22,293	2,605	962	782	11,617	6,223	104
Coast counties	14,599	1,702	631	479	7,653	4,091	43
Interior counties	7,694	903	331	303	3,964	2,132	61
Metropolitan area	10,525	1,353	467	225	5,681	2,677	22
Rural counties	11,768	1,252	495	457	5,936	3,546	82

This table shows that of the 30,985 deaths in 1909, 16,281 occurred at the productive ages from 15 to 64 years; 8,904 at the period of old age, 65 years and over; 3,480 in infancy, or the first year of life; 1,313 in childhood, 1 to 4 years; 928 in youth, 5 to 14 years; and only 79 were of unknown age. Similarly, of the 31,287 deaths in 1908, 16,486 were at the productive ages; 8,603 in old age; 3,592 in infancy; 1,393 in childhood; 1,082 in youth; and 131 were unknown.

To facilitate comparisons between geographic divisions, the absolute numbers in the preceding table have been reduced to per cents, as follows:

TABLE 25.—*Per Cent Distribution of Deaths, by Age Periods, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Per Cent of Deaths.											
	Under 1 Year.		1 to 4 Years.		5 to 14 Years		15 to 64 Years.		65 Years and Over.		Age Unknown.	
	1909.	1908	1909.	1908	1909	1908.	1909.	1908.	1909.	1908.	1909.	1908
THE STATE	11.2	11.5	4.2	4.4	3.0	3.5	52.6	52.7	28.7	27.5	0.3	0.4
Northern California	8.5	8.1	3.5	3.7	3.0	4.2	50.3	49.3	34.1	33.8	0.6	0.9
Coast counties	8.9	7.8	3.7	3.8	3.1	3.9	49.0	48.5	35.0	35.1	0.3	0.9
Interior counties	8.1	8.4	3.3	3.5	2.9	4.5	51.5	50.0	33.3	32.6	0.9	1.0
Central California	11.9	12.5	4.5	4.5	2.9	3.3	52.6	52.7	27.9	26.6	0.2	0.4
San Francisco	11.6	12.5	4.9	4.5	2.2	2.9	56.9	56.6	24.3	23.5	0.1	*
Other bay counties	13.3	13.4	4.8	4.4	3.1	3.3	50.1	50.2	28.4	28.3	0.3	0.4
Coast counties	10.9	9.2	3.5	4.2	3.4	3.7	46.7	48.3	35.4	34.4	0.1	0.2
Interior counties	11.6	13.1	4.1	4.6	3.4	3.7	51.8	52.1	28.7	25.8	0.4	0.7
Southern California	11.1	11.0	4.2	4.8	3.1	3.3	53.4	54.1	28.0	26.5	0.2	0.3
Los Angeles	10.7	10.4	3.8	4.5	2.9	3.2	54.1	55.4	28.4	26.4	0.1	0.1
Other counties	12.0	12.0	4.8	5.4	3.5	3.6	52.0	51.5	27.3	26.7	0.4	0.8
Northern and Central California	11.3	11.7	4.3	4.3	2.9	3.5	52.2	52.1	29.0	27.9	0.3	0.5
Coast counties	11.6	11.7	4.5	4.3	2.8	3.3	52.4	52.4	28.6	28.0	0.1	0.3
Interior counties	10.6	11.7	3.9	4.3	3.3	4.0	51.7	51.5	30.0	27.7	0.5	0.8
Metropolitan area	12.3	12.9	4.8	4.4	2.6	3.1	54.2	54.0	25.9	25.	0.2	0.2
Rural counties	10.4	10.6	3.7	4.2	3.3	3.9	50.3	50.5	31.9	30.1	0.4	0.7

*Less than one tenth of 1 per cent.

The per cent distribution shows that the deaths at the productive ages, from 15 to 64 years, were 52.6 per cent of all in 1909 and 52.7 per cent in 1908; the deaths at the period of old age, 65 years and over, were 28.7 and 27.5, respectively; the deaths in infancy, or the first year of life, 11.2 and 11.5 per cent; the deaths in childhood, 1 to 4 years, 4.2 and 4.4 per cent; the deaths in youth, 5 to 14 years, 3.0 and 3.5 per cent; and the deaths of unknown age were only 0.3 per cent in 1909 and 0.4 per cent in 1908.

The per cents of deaths occurring at the productive ages, from 15 to 64, were above the State averages of 52.6 in 1909 and 52.7 in 1908 only for San Francisco, 56.9 and 56.6, and for Los Angeles, 54.1 and 55.4. The per cents of deaths at the productive ages were 53.4 and 54.1 for the counties south of Tehachapi as compared with 52.2 and 52.1 for those to the north. The per cents were 54.2 and 54.0 for the metropolitan area, but only 50.3 and 50.5 for the rural counties north of Tehachapi, and were no less than 56.9 and 56.6 for San Francisco against only 50.1 and 50.2 for the suburban counties.

The proportion of deaths at the period of old age, 65 years and over, was above the general average for both the coast and interior counties of Northern California and the coast counties of Central California each year, as well as for the group of other bay counties in 1908 alone. The per cents of deaths occurring at 65 years and over (28.7 in 1909 and 27.5 in 1908 for the State) were no less than 34.1 and 33.8 for Northern California, but only 27.9 and 26.6 for Central California and 28.0 and 26.5 for Southern California. The per cents for Northern and Central California together were 29.0 in 1909 and 27.9 in 1908, being only 25.9 and 25.4 for the urban territory against no less than 31.9 and 30.1 for the rural districts. The per cents for San Francisco were only 24.3 and 23.5 as compared with 28.4 and 28.3 for the adjoining suburbs.

The proportion of deaths in infancy, or the first year of life, was particularly high each year only for Central California, especially for San Francisco and the suburban counties, through the proportions were also above the State averages for the interior counties of Central California and for the counties of Southern California other than Los Angeles. While the per cents for the State were 11.2 and 11.5 in 1909 and 1908, the per cents for Central California were 11.9 and 12.5, being 11.6 and 12.5 for San Francisco and no less than 13.3 and 13.4 for the suburbs. The per cent of deaths in the first year of life was 12.3 in 1909 and 12.9 in 1908 for the whole urban territory as compared with only 10.4 and 10.6 for the rural counties north of Tehachapi. However, the per cents were 11.6 and 13.1 in 1909 and 1908 for the interior counties of Central California and the per cent was 12.0 each year for the counties south of Tehachapi except Los Angeles. The proportion of deaths in infancy was lowest each year for Northern California, 8.5 in 1909 and 8.1 in1908.

The proportion of deaths in childhood, 1 to 4 years, as in infancy, is notably great for the metropolitan area. While the per cents for the State were 4.2 and 4.4, the per cents for the metropolitan area were 4.8 and 4.4, being 4.9 and 4.5 for San Francisco and 4.8 and 4.4 for the suburbs. The per cents were also quite high for the counties of Southern California other than Los Angeles, 4.8 and 5.4, as well as for the interior counties of Central California, 4.1 and 4.6. The per cents for the rural counties north of Tehachapi were only 3.7 and 4.2, being only 3.5 and 3.7 for Northern California alone.

No marked variations appear between the several geographic divisions in the proportion of deaths in youth, 5 to 14 years, at which period occurred only 3.0 per cent of all deaths in 1909 and 3.5 per cent in 1908, except that each year the minimum per cents, 2.2 and 2.9, respectively, were those for San Francisco.

Age and Cause of Death.—The tables on the following pages show for California in 1909 and 1908, first, the number of deaths from certain principal causes classified by age periods, and second, the per cent distribution, by age periods, of the deaths from each of these causes.

TABLE 26.—*Deaths from Certain Principal Causes classified by Age Periods, for California: 1909 and 1908.*

CAUSE OF DEATH.	Deaths.	Under 1 Year	1 to 4 Years.	5 to 14 Years.	15 to 64 Years.	65 Years and Over.	Age Unknown.
1909.							
ALL CAUSES	30,985	3,480	1,313	928	16,281	8,904	79
Typhoid fever	461	3	21	58	364	15	--------
Malarial fever	112	5	8	4	62	33	--------
Smallpox	6	1	--------	--------	5	--------	--------
Measles	119	34	55	20	9	1	--------
Scarlet fever	69	1	18	33	17	--------	--------
Whooping-cough	217	129	77	8	3	--------	--------
Diphtheria and croup	248	6	113	102	26	1	--------
Influenza	82	1	1	--------	23	57	--------
Plague	1	--------	--------	1	--------	--------	--------
Other epidemic diseases	108	12	3	2	64	26	1
Tuberculosis of lungs	4,061	53	50	74	3,587	288	9
Tuberculosis of other organs	612	80	126	69	312	24	1
Cancer	1,945	--------	6	5	1,205	729	--------
Other general diseases	1,177	68	29	57	743	274	6
Meningitis	398	121	108	53	103	13	--------
Other diseases of nervous system	2,479	80	27	33	1,212	1,116	11
Diseases of circulatory system	4,966	5	5	41	2,267	2,642	6
Pneumonia and broncho-pneumonia	2,081	378	170	54	844	632	3
Other diseases of respiratory system	842	135	52	12	233	407	3
Diarrhea and enteritis, under 2 years	966	808	158	--------	--------	--------	--------
Diarrhea and enteritis, 2 years and over	270	--------	78	22	80	90	--------
Other diseases of digestive system	1,596	61	36	74	992	432	1
Bright's disease and nephritis	1,858	20	17	24	1,018	775	4
Childbirth	300	--------	--------	--------	300	--------	--------
Diseases of early infancy	998	998	--------	--------	--------	--------	--------
Suicide	702	--------	--------	1	629	69	3
Other violence	2,563	121	119	167	1,841	291	24
All other causes	1,748	360	36	14	342	989	7
1908.							
ALL CAUSES	31,287	3,592	1,393	1,082	16,486	8,603	131
Typhoid fever	540	1	20	65	438	12	4
Malarial fever	80	6	3	6	48	17	--------
Smallpox	9	4	1	--------	4	--------	--------
Measles	101	22	48	18	11	2	--------
Scarlet fever	104	7	32	49	16	--------	--------
Whooping-cough	149	94	48	4	3	--------	--------
Diphtheria and croup	391	16	172	155	47	1	--------
Influenza	125	7	2	--------	34	82	--------
Plague	5	--------	--------	2	3	--------	--------
Other epidemic diseases	126	12	6	4	66	37	1
Tuberculosis of lungs	3,945	23	34	82	3,524	269	13
Tuberculosis of other organs	620	84	113	67	326	29	1
Cancer	1,737	1	5	4	1,100	624	3
Other general diseases	1,186	63	26	56	789	248	4
Meningitis	571	128	143	102	184	11	3
Other diseases of nervous system	2,422	95	41	31	1,175	1,072	8
Diseases of circulatory system	4,540	3	6	56	2,069	2,390	16
Pneumonia and broncho-pneumonia	2,421	377	208	58	1,104	667	7
Other diseases of respiratory system	861	121	45	20	265	408	2
Diarrhea and enteritis, under 2 years	922	793	129	--------	--------	--------	--------
Diarrhea and enteritis, 2 years and over	243	--------	75	22	71	75	--------
Other diseases of digestive system	1,646	77	63	82	1,021	400	3
Bright's disease and nephritis	1,797	12	9	30	970	769	7
Childbirth	339	--------	--------	--------	339	--------	--------
Diseases of early infancy	1,108	1,108	--------	--------	--------	--------	--------
Suicide	757	--------	--------	4	679	66	8
Other violence	2,569	119	124	144	1,827	321	34
All other causes	1,973	419	40	21	373	1,103	17

TABLE 27.—*Per Cent Distribution, by Age Periods, of Deaths from Certain Principal Causes, for California: 1909 and 1908.*

CAUSE OF DEATH.	Per Cent of Deaths.											
	Under 1 Year.		1 to 4 Years.		5 to 14 Years.		15 to 64 Years.		65 Years and Over		Age Unknown.	
	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.	1909.	1908.
ALL CAUSES	11.2	11.5	4.2	4.4	3.0	3.5	52.6	52.7	28.7	27.5	0.3	0.4
Typhoid fever	0.6	0.2	4.6	3.7	12.6	12.0	79.0	81.1	3.2	2.2	----	0.8
Malarial fever	4.5	7.5	7.1	3.8	3.6	7.5	55.3	60.0	29.5	21.2	----	----
Smallpox	16.7	44.5	-----	11.1	-----	-----	83.3	44.4	-----	-----	----	----
Measles	28.6	21.8	46.2	47.5	16.8	17.8	7.6	10.9	0.8	2.0	----	----
Scarlet fever	1.5	6.7	26.1	30.8	47.8	47.1	24.6	15.4	-----	-----	----	----
Whooping-cough	59.4	63.1	35.5	32.2	3.7	2.7	1.4	2.0	-----	-----	----	----
Diphtheria and croup	2.4	4.1	45.6	44.0	41.1	39.6	10.5	12.0	0.4	0.3	----	----
Influenza	1.2	5.6	1.2	1.6	-----	-----	28.1	27.2	69.5	65.6	----	----
Plague	-----	-----	-----	-----	100.0	40.0	-----	60.0	-----	-----	----	----
Other epidemic diseases	11.1	9.5	2.8	4.7	1.8	3.2	59.3	52.4	24.1	29.4	0.9	0.8
Tuberculosis of lungs	1.3	0.6	1.3	0.9	1.8	2.1	88.3	89.3	7.1	6.8	0.2	0.3
Tuberculosis of other organs	13.1	13.5	20.6	18.2	11.3	10.8	51.0	52.6	3.9	4.7	0.1	0.2
Cancer	-----	0.1	0.3	0.3	0.2	0.2	62.0	63.3	37.5	35.9	----	0.2
Other general diseases	5.8	5.3	2.5	2.2	4.8	4.7	63.1	66.5	23.3	20.9	0.5	0.4
Meningitis	30.4	22.4	27.1	25.1	13.3	17.9	25.9	32.2	3.3	1.9	----	0.5
Other diseases of nervous system	3.2	3.9	1.1	1.7	1.3	1.3	48.9	48.5	45.0	44.3	0.5	0.3
Diseases of circulatory system	0.1	0.1	0.1	0.1	0.8	1.3	45.7	45.6	53.2	52.6	0.1	0.4
Pneumonia and bronchopneumonia	18.2	15.6	8.2	8.6	2.6	2.4	40.5	45.6	30.4	27.5	0.1	0.3
Other diseases of respiratory system	16.0	14.1	6.2	5.2	1.4	2.3	27.7	30.8	48.3	47.4	0.4	0.2
Diarrhea and enteritis, under 2 years	83.6	86.0	16.4	14.0	-----	-----	-----	-----	-----	-----	----	----
Diarrhea and enteritis, 2 years and over	-----	-----	28.9	30.9	8.2	9.0	29.6	29.2	33.3	30.9	----	----
Other diseases of digestive system	3.8	4.7	2.3	3.8	4.6	5.0	62.1	62.0	27.1	24.3	0.1	0.2
Bright's disease and nephritis	1.1	0.6	0.9	0.5	1.3	1.7	54.8	54.0	41.7	42.8	0.2	0.4
Childbirth	-----	-----	-----	-----	-----	-----	100.0	100.0	-----	-----	----	----
Diseases of early infancy	100.0	100.0	-----	-----	-----	-----	-----	-----	-----	-----	----	----
Suicide	-----	-----	-----	-----	0.2	0.5	89.6	89.7	9.8	8.7	0.4	1.1
Other violence	4.7	4.7	4.7	4.8	6.5	5.6	71.8	71.1	11.4	12.5	0.9	1.3
All other causes	20.6	21.2	2.1	2.0	0.8	1.1	19.5	18.9	56.6	55.9	0.4	0.9

From the table giving the per cent distribution it appears that the per cents of deaths at the productive ages, from 15 to 64 years, were above the general averages of 52.6 and 52.7 for deaths from the following important causes: Childbirth, 100.0 per cent each year; suicide, 89.6 in 1909 and 89.7 in 1908; tuberculosis of the lungs, 88.3 and 89.3; typhoid fever, 79.0 and 81.1; miscellaneous violence, 71.8 and 71.1; general diseases other than tuberculosis and cancer, 63.1 and 66.5; cancer, 62.0 and 63.3; diseases of the digestive system other than diarrhea, 62.1 and 62.0; malarial fever, 55.3 and 60.0; and Bright's disease and nephritis, 54.8 and 54.0.

The per cents of deaths at the period of old age, 65 years and over, were above the general averages for 1909 and 1908, 28.7 and 27.5, for deaths from the following notable causes: Influenza, 69.5 and 65.6; miscellaneous causes, including "old age" or senility, 56.6 and 55.9; diseases of the circulatory system, 53.2 and 52.6; diseases of the respiratory system other than pneumonia, 48.3 and 47.4; diseases of the nervous system other than meningitis, 45.0 and 44.3; Bright's disease and nephritis, 41.7 and 42.8; cancer, 37.5 and 35.9; diarrhea and enteritis, 2 years and over, 33.3 and 30.9; and pneumonia and bronchopneumonia, 30.4 and 27.5.

The per cents of deaths in infancy, or the first year of life, were above the general averages of 11.2 and 11.5 for deaths from the following causes: Early infancy (premature birth, congenital debility, etc.), 100.0 per cent each year; diarrhea and enteritis, under 2 years, 83.6 in 1909 and 86.0 in 1908; whooping-cough, 59.4 and 63.1; meningitis, 30.4 and 22.4; measles, 28.6 and 21.8; pneumonia and broncho-pneumonia, 18.2 and 15.6; other diseases of the respiratory system, 16.0 and 14.1; and tuberculosis other than pulmonary, 13.1 and 13.5.

The per cents of deaths in childhood, 1 to 4 years, were above the general averages of 4.2 and 4.4 in 1909 and 1908 for deaths from the following causes: Measles, 46.2 and 47.5; diphtheria and croup, 45.6 and 44.0; whooping-cough, 35.5 and 32.2; diarrhea and enteritis, 2 years and over, 28.9 and 30.9; meningitis, 27.1 and 25.1; scarlet fever, 26.1 and 30.8; tuberculosis of other organs than the lungs, 20.6 and 18.2; diarrhea and enteritis, under 2 years, 16.4 and 14.0; pneumonia and broncho-pneumonia, 8.2 and 8.6; other diseases of the respiratory system, 6.2 and 5.2; and miscellaneous violence, 4.7 and 4.8.

The per cent of deaths in youth, 5 to 14 years, was above the general averages of 3.0 in 1909 and 3.5 in 1908 for deaths from the following causes: Scarlet fever, 47.8 and 47.1; diphtheria and croup, 41.1 and 39.6; measles, 16.8 and 17.8; meningitis, 13.3 and 17.9; typhoid fever, 12.6 and 12.0; tuberculosis other than pulmonary, 11.3 and 10.8; diarrhea and enteritis, 2 years and over, 8.2 and 9.0; other diseases of the digestive system, 4.6. and 5.0; general diseases other than tuberculosis and cancer, 4.8 and 4.7; and miscellaneous violence (accidental injuries, etc.), 6.5 and 5.6.

The per cents of unknown age, only 0.3 in 1909 and 0.4 in 1908, for all causes, were notably high each year for suicides, 0.4 and 1.1, and for deaths from miscellaneous violence, 0.9 and 1.3, the last including deaths from drowning and from various accidental injuries.

TABLE 28.—*Deaths from each Specified Disease and Class of Diseases, classified by Sex, Race, Nativity, and Age Periods, for California: 1909.*

No.	CAUSE OF DEATH	Total Deaths	Male	Female	White	Negro	Indian	Chinese	Japanese	White.				Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 64 Years	65 Years and Over	Age Unknown
										Born in California	Born in Other States	Foreign Born	Unknown						
	ALL CAUSES	30,985	19,324	11,661	29,323	388	130	694	450	8,231	10,763	9,457	872	3,480	1,313	928	16,281	8,904	79
	I. GENERAL DISEASES	9,218	5,502	3,716	8565	143	46	293	171	2,502	3,238	2,672	153	393	507	433	6,420	1,448	17
	(A.) Epidemic diseases	1,423	836	587	1,304	15	8	38	58	731	329	223	21	192	296	228	573	133	1
1	Typhoid fever	461	305	156	406	7	2	9	37	168	128	102	8	3	21	58	364	15	-
2	Exanthematic typhus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Relapsing fever	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Malarial fever	112	78	34	93	3	1	8	7	22	42	23	6	5	8	4	62	33	-
5	Smallpox	6	4	2	6	-	-	-	-	2	2	1	1	1	-	-	5	-	-
6	Measles	119	57	62	114	1	-	4	-	98	11	4	1	34	55	20	9	1	-
7	Scarlet fever	69	33	36	68	-	-	1	-	51	11	6	-	1	18	33	17	-	-
8	Whooping-cough	217	106	111	202	3	5	5	2	191	9	2	-	129	77	8	3	-	-
9	(a) Diphtheria	211	116	95	203	1	-	4	3	143	46	14	-	3	87	94	26	1	-
	(b) Croup	37	14	23	36	-	-	-	1	27	6	3	-	3	26	8	-	-	-
10	Influenza	82	42	40	81	-	-	1	-	5	50	24	2	1	1	-	23	57	-
11	Miliary fever	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Asiatic cholera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Cholera nostras	3	2	1	3	-	-	-	-	1	1	1	-	-	-	1	1	1	-
14	Dysentery	43	34	9	39	-	-	2	2	6	12	20	1	1	1	1	27	13	-
15	Plague	1	1	-	1	-	-	-	-	1	-	-	-	-	-	1	-	-	-
16	Yellow fever	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Leprosy	3	2	1	2	-	-	1	-	-	-	2	-	-	-	-	1	2	-
18	Erysipelas	51	35	16	49	-	-	2	-	15	11	21	2	10	1	-	29	10	1
19	Other epidemic diseases	8	7	1	1	-	-	1	6	1	-	-	-	1	1	-	6	-	-
	(B.) Other general diseases	7,795	4,666	3,129	7,261	128	38	255	113	1,771	2,909	2,449	132	201	211	205	5,847	1,315	16
*20	Septicemia	54	37	17	50	1	-	3	-	9	18	20	3	-	1	4	32	17	-
21	Glanders and farcy	1	1	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
22	Malignant pustule and charbon	1	1	-	1	-	-	-	-	-	-	1	-	-	-	-	1	-	-
23	Rabies	1	1	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
24	Actinomycosis, trichinosis, etc.	6	3	3	6	-	-	-	-	-	3	3	-	-	-	-	5	1	-
25	Pellagra	1	-	1	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
†27	Tuberculosis of lungs	4,061	2,672	1,389	3,682	92	28	189	70	1,024	1,446	1,143	69	53	50	74	3,587	288	9
†26	Tuberculosis of larnyx	31	22	9	31	-	-	-	-	9	11	11	-	1	-	-	28	2	-
28	Tuberculous meningitis	227	119	108	212	2	3	1	9	173	29	9	1	57	99	34	37	-	-
29	Abdominal tuberculosis	206	107	99	179	7	-	2	18	68	63	46	2	15	16	15	147	13	-
30	Pott's disease	32	24	8	30	-	-	1	1	13	8	9	-	-	1	8	21	2	-
*31	Tuberculous abscess	2	-	2	2	-	-	-	-	-	1	1	-	-	-	-	2	-	-
32	White swelling	20	13	7	20	-	-	-	-	6	9	5	-	-	-	2	15	3	-
33	Tuberculosis of other organs	26	12	14	23	-	-	1	2	12	5	5	1	3	4	3	12	3	1
34	General tuberculosis	68	32	36	63	2	-	1	2	26	24	12	1	4	6	7	50	1	-

35	Scrofula	4	1	3	3	------	1	------	------	2	1	------	------	------	3	1	------	------	----
36	Syphilis	151	110	41	140	2	1	6	2	76	31	31	2	62	9	------	76	4	----
37	Gonorrhea of the adult	3	2	1	3	------	------	------	------	1	1	1	------	------	------	------	2	1	----
38	Gonorrheal infections of children	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
39	Cancer of mouth	69	65	4	68	------	------	1	------	5	31	32	------	------	------	------	29	40	----
40	Cancer of stomach and liver	796	479	317	773	3	------	16	4	36	334	398	5	------	------	------	491	305	----
41	Cancer of intestines and peritoneum	208	109	99	205	------	------	2	1	22	85	96	2	------	2	1	118	87	----
42	Cancer of genital organs	275	------	275	266	6	------	2	1	49	125	91	1	------	------	------	213	62	----
43	Cancer of breast	147	------	147	143	2	1	1	------	24	76	43	------	------	------	------	99	48	----
44	Cancer of skin	64	51	13	62	------	------	2	------	3	33	26	------	------	------	------	27	37	----
*45	Cancer of other or unspecified organs	386	244	142	376	3	------	7	------	35	184	150	7	------	4	4	228	150	----
*46	Tumor (noncancerous)	13	7	6	13	------	------	------	------	3	5	4	1	1	1	------	5	6	----
47	Acute articular rheumatism	93	42	51	88	2	------	2	1	34	35	18	1	------	3	26	56	7	1
48	Chronic rheumatism and gout	63	24	39	61	1	------	1	------	7	34	19	1	------	------	------	25	38	----
49	Scurvy	5	1	4	5	------	------	------	------	2	2	1	------	2	------	------	3	------	----
50	Diabetes	308	164	144	302	4	------	2	------	42	135	122	3	------	4	15	173	116	----
51	Exophthalmic goiter	36	6	30	35	1	------	------	------	7	16	12	------	------	------	1	32	3	----
52	Addison's disease	13	7	6	13	------	------	------	------	1	7	5	------	------	------	------	9	4	----
53	Leukemia	51	‘28	23	50	------	------	1	------	17	16	17	------	------	4	6	34	7	----
*54	Anemia, chlorosis	111	51	60	111	------	------	------	------	19	57	32	3	1	2	4	77	27	----
†56	Alcoholism	205	181	24	197	------	2	4	2	34	63	76	24	1	------	------	167	32	5
57	Lead poisoning	5	5	------	4	------	------	1	------	------	------	4	------	------	------	------	5	------	----
58	Other professional intoxications	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
59	Other chronic poisonings	46	41	5	36	------	1	9	------	9	17	5	5	------	------	------	36	10	----
†55	Other general diseases	6	4	2	5	------	1	------	------	3	1	1	------	1	2	------	2	1	----
	II. DISEASES OF THE NERVOUS SYSTEM	2,877	1,755	1,122	2,770	30	6	33	38	611	1,214	885	60	201	135	86	1,315	1,129	11
*60	Encephalitis	19	11	8	17	------	------	1	1	10	1	6	------	6	4	1	6	2	----
61	Meningitis	398	221	177	372	3	1	3	19	269	66	34	3	121	108	53	103	13	----
62	Locomotor ataxia	72	59	13	72	------	------	------	------	10	39	22	1	------	------	------	53	19	----
63	Other diseases of spinal cord	123	67	56	118	1	------	2	2	16	62	39	1	4	5	------	70	43	1
64	Apoplexy	1,194	697	497	1,165	11	1	13	4	67	604	463	31	3	1	2	482	702	4
65	Softening of brain	69	44	25	69	------	------	------	------	4	34	31	------	------	------	------	23	46	----
*66	Paralysis	328	198	130	318	5	------	4	1	15	176	117	10	1	1	3	71	250	2
67	General paralysis of insane	174	145	29	165	4	------	4	1	26	74	59	6	------	------	------	153	20	1
68	Other forms of mental disease	135	83	52	124	3	2	3	3	26	52	44	2	------	------	1	130	1	3
74	a(pt). Other diseases of brain	111	71	40	106	------	------	2	3	30	36	36	4	1	3	3	91	13	----
69	Epilepsy	101	70	31	100	------	1	------	------	46	35	17	2	------	1	9	85	6	----
*70	Convulsions (nonpuerperal)	3	1	2	3	------	------	------	------	1	1	1	------	------	------	------	3	------	----
*71	Convulsions of children	63	39	24	60	1	------	------	2	58	2	------	------	57	6	------	------	------	----
72	Tetanus	29	18	11	27	1	------	------	1	18	[illegible]	2	------	5	3	9	11	1	----
73	Chorea	5	1	4	5	------	------	------	------	1	3	1	------	------	------	1	3	1	----
74	b(pt). Other diseases of nervous system	34	17	17	32	------	1	1	------	5	17	10	------	------	1	1	21	11	----
75	Diseases of the eye and its adnexa	3	------	3	2	------	------	------	1	2	------	------	------	2	------	------	1	------	----
76	Diseases of the ear	16	13	3	15	1	------	------	------	7	5	3	------	1	2	3	9	1	----

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*Indefinite and unsatisfactory title. †Order of titles changed.

TABLE 28.—*Deaths from each Specified Disease and Class of Diseases, classified by Sex, Race, Nativity, and Age Periods, for California: 1909*—Continued.

No.	CAUSE OF DEATH.	Total Deaths	Male	Female	White	Negro	Indian	Chinese	Japanese	White. Born in California	White. Born in Other States	White. Foreign Born	White. Unknown	Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 64 Years	65 Years and Over	Age Unknown
	III. DISEASES OF THE CIRCULATORY SYSTEM	4,966	3,202	1,764	4,798	44	5	108	11	368	2,202	2,096	138	5	5	41	2,267	2,642	6
77	Pericarditis	42	29	13	38	2	------	2	------	5	12	21	------	------	------	1	25	16	----
78	Endocarditis	39	23	16	37	------	------	1	1	9	14	12	1	------	1	1	33	4	----
79	Heart disease	4,019	2,580	1,439	3,871	37	4	98	9	308	1,754	1,685	124	2	3	34	1,915	2,060	5
80	Angina pectoris	130	79	51	127	2	------	1	------	6	74	45	2	------	------	------	69	61	----
81	Diseases of arteries	614	429	185	606	3	1	4	------	20	297	280	9	------	------	------	147	466	1
82	Embolism and thrombosis	85	43	42	82	------	------	2	1	7	41	32	2	------	------	1	51	33	----
83	Diseases of veins	11	4	7	11	------	------	------	------	4	2	5	------	------	------	2	8	1	----
84	Diseases of lymphatics	4	1	3	4	------	------	------	------	3	1	------	------	1	1	------	2	------	----
*85	Hemorrhages (except of lungs)	22	14	8	22	------	------	------	------	6	7	9	------	2	------	2	17	1	----
86	Other diseases of circulatory system	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
	IV. DISEASES OF THE RESPIRATORY SYSTEM	2,923	1,756	1,167	2,747	37	17	72	50	874	890	915	68	513	222	66	1,077	1,039	6
*87	Diseases of nasal fossae	3	2	1	3	------	------	------	------	3	------	------	------	2	------	------	1	------	----
88	(a) Larnygitis	15	7	8	14	------	------	------	1	10	4	------	------	3	8	1	2	1	----
	(b) Other diseases of larnyx	14	9	5	13	------	------	------	1	7	2	4	------	3	3	1	6	1	----
89	Diseases of the thyroid body	7	1	6	7	------	------	------	------	1	6	------	------	------	------	1	4	2	----
90	Acute bronchitis	134	76	58	118	2	------	2	12	113	2	2	1	100	33	------	------	1	----
91	Chronic bronchitis	317	161	156	309	------	1	5	2	12	133	159	5	------	------	4	61	251	1
92	Broncho-pneumonia	451	236	215	428	4	1	5	13	207	102	117	2	139	64	14	90	144	----
93	Pneumonia	1,630	1,027	603	1,525	28	14	46	17	462	509	511	43	239	106	40	754	488	3
94	Pleurisy	85	64	21	76	2	1	5	1	18	29	25	4	1	1	3	58	22	----
*95	Congestion of lungs	111	67	44	100	1	------	7	3	30	43	22	5	24	5	1	27	53	1
96	Gangrene of lungs	12	9	3	11	------	------	1	------	1	3	6	1	------	1	------	11	------	----
97	Asthma	106	66	40	106	------	------	------	------	4	43	55	4	------	------	1	35	69	1
98	Emphysema	7	6	1	7	------	------	------	------	1	3	2	1	------	1	------	4	2	----
*99	(a) Hemorrhage of lungs	11	10	1	10	------	------	1	------	2	2	5	1	------	------	------	9	2	----
	(b) Other diseases of respiratory system	20	15	5	20	------	------	------	------	3	9	7	1	2	------	------	15	3	----
	V. DISEASES OF THE DIGESTIVE SYSTEM	2,832	1,686	1,146	2,692	30	9	47	54	1,330	748	574	40	869	272	96	1,072	522	1
100	Diseases of mouth	4	1	3	4	------	------	------	------	2	1	1	------	2	1	------	------	1	----
101	(a) Tonsilitis	18	6	12	18	------	------	------	------	9	8	1	------	------	5	8	4	1	----
	(b) Diseases of pharynx	6	5	1	6	------	------	------	------	2	3	1	------	1	------	1	3	1	----
102	Diseases of esophagus	3	2	1	3	------	------	------	------	------	2	1	------	------	------	------	------	3	----
103	Ulcer of stomach	121	84	37	115	------	------	4	2	22	47	43	3	------	------	2	89	30	----
104	*(a) Gastritis	117	67	50	111	3	2	------	1	12	61	36	2	1	------	3	45	68	----
	(b) Other diseases of stomach	68	39	29	66	------	1	------	1	12	29	24	1	2	1	4	29	31	1

*100	Dentition†	15	7	8	15	------	------	------	------	14	1	------	------	10	5	------	------	------	----
105	Diarrhea and enteritis (under 2 years)	966	546	420	910	13	4	11	28	874	28	8	------	808	158	------	------	------	----
106	Diarrhea and enteritis (2 years and over)	270	144	126	255	4	1	6	4	98	89	63	5	------	78	22	80	90	----
107	Intestinal parasites	1	1	------	1	------	------	------	------	------	1	------	------	------	------	------	1	------	----
108	(a) Hernia	92	54	38	88	3	------	1	------	15	34	36	3	5	1	1	44	41	----
	(b) Obstruction of intestines	179	101	78	173	1	------	2	3	64	51	52	6	29	11	6	81	52	----
109	Other diseases of intestines	59	34	25	56	1	------	------	2	11	26	19	------	3	1	------	31	24	----
110	Acute yellow atrophy of liver	1	1	------	1	------	------	------	------	------	1	------	------	------	------	------	1	------	----
111	Hydatid tumors of liver	1	------	1	1	------	------	------	------	------	------	1	------	------	------	------	1	------	----
112	Cirrhosis of liver	336	254	82	319	3	------	12	2	42	124	144	9	------	------	2	247	87	----
113	Biliary calculi	35	13	22	34	------	------	1	------	4	17	13	------	------	------	------	26	9	----
114	Other diseases of liver	184	108	76	171	2	1	5	5	35	79	54	3	2	2	3	128	49	----
115	Diseases of spleen	5	2	3	5	------	------	------	------	------	1	4	------	------	------	------	4	1	----
116	Peritonitis (nonpuerperal)	110	61	49	107	------	------	1	2	29	48	29	1	6	5	7	74	18	----
†118	Appendicitis	235	152	83	227	------	------	4	4	83	95	42	7	------	4	37	180	14	----
†117	Other diseases of digestive system	6	4	2	6	------	------	------	------	2	2	2	------	------	------	------	4	2	----
	VI. DISEASES OF THE GENITO-URINARY SYSTEM	2,291	1,405	886	2,193	34	4	40	20	312	1,049	784	48	21	18	27	1,264	955	6
119	Acute nephritis	83	58	25	72	2	------	4	5	43	17	11	1	18	12	12	36	5	----
120	Bright's disease	1,775	1,139	636	1,702	27	4	33	9	214	804	644	40	2	5	12	982	770	4
121	Other diseases of kidneys	61	40	21	56	------	------	3	2	11	25	19	1	------	1	1	33	25	1
122	Calculi of urinary tract	7	5	2	7	------	------	------	------	1	1	5	------	1	------	------	2	4	----
123	Diseases of bladder	98	84	14	96	1	------	------	1	4	55	35	2	------	------	------	33	65	----
124	Diseases urethra, urinary abscess, etc.	6	5	1	6	------	------	------	------	1	1	3	1	------	------	------	2	3	1
125	Diseases of prostate	75	74	1	74	1	------	------	------	------	47	26	1	------	------	------	7	68	----
126	Nonvenereal diseases of (male) genital organs	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
127	Metritis	4	------	4	4	------	------	------	------	1	2	1	------	------	------	------	4	------	----
128	Uterine hemorrhage (nonpuerperal)	4	------	4	4	------	------	------	------	------	3	1	------	------	------	------	4	------	----
129	Uterine tumor (noncancerous)	46	------	46	45	1	------	------	------	6	29	8	2	------	------	------	42	4	----
130	Other diseases of uterus	46	------	46	44	1	------	------	1	10	21	13	------	------	------	2	41	3	----
131	Ovarian tumors	31	------	31	29	1	------	------	1	6	14	9	------	------	------	------	24	7	----
132	(a) Diseases of tubes	53	------	53	52	------	------	------	1	15	28	9	------	------	------	------	53	------	----
	(b) Other diseases of female genital organs	1	------	1	1	------	------	------	------	------	1	------	------	------	------	------	1	------	----
133	Nonpuerperal diseases of the breast (cancer excepted)	1	------	1	1	------	------	------	------	------	1	------	------	------	------	------	------	1	----
	VII. CHILDBIRTH	300	------	300	280	4	5	2	9	111	92	77	------	------	------	------	300	------	----
134	Accidents of pregnancy	67	------	67	65	------	------	------	2	25	27	13	------	------	------	------	67	------	----
135	Puerperal hemorrhage	20	------	20	17	------	------	1	2	5	4	8	------	------	------	------	20	------	----
136	Other accidents of labor	30	------	30	28	------	1	------	1	8	7	13	------	------	------	------	30	------	----
137	Puerperal septicemia	76	------	76	72	1	------	------	3	26	22	24	------	------	------	------	76	------	----
138	Puerperal convulsions	66	------	66	61	2	2	------	1	28	20	13	------	------	------	------	66	------	----
139	Puerperal phlegmasia alba dolens	2	------	2	2	------	------	------	------	1	------	1	------	------	------	------	2	------	----
140	Other puerperal accidents	39	------	39	35	1	2	1	------	18	12	5	------	------	------	------	39	------	----
141	Puerperal diseases of the breast	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----

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*Indefinite and unsatisfactory title. †Order of titles changed.

TABLE 28.—*Deaths from each Specified Disease and Class of Diseases, classified by Sex, Race, Nativity, and Race Periods, for California: 1909*—Continued.

No.	CAUSE OF DEATH.	Total Deaths	Male	Female	White	Negro	Indian	Chinese	Japanese	WHITE. Born in California	WHITE. Born in Other States	WHITE. Foreign Born	WHITE. Unknown	Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 64 Years	65 Years and Over	Age Unknown
	VIII. DISEASES OF THE SKIN	110	76	34	105	3	------	2	------	17	47	40	1	10	------	------	33	67	----
142	Gangrene	70	52	18	67	3	------	------	------	3	37	27	------	1	------	------	11	58	----
143	Carbuncle	11	9	2	11	------	------	------	------	5	3	3	------	1	------	------	6	4	----
*144	Abscess	18	12	6	16	------	------	2	------	3	6	6	1	2	------	------	14	2	----
145	Other diseases of the skin	11	3	8	11	------	------	------	------	6	1	4	------	6	------	------	2	3	----
	IX. DISEASES OF THE LOCOMOTOR SYSTEM	44	30	14	40	------	1	------	3	23	4	13	------	8	11	5	18	2	----
146	Diseases of bones	41	27	14	37	------	1	------	3	22	3	12	------	7	11	5	16	2	----
147	Diseases of joints	2	2	------	2	------	------	------	------	1	1	------	------	1	------	------	1	------	----
*148	Amputation	1	1	------	1	------	------	------	------	------	------	1	------	------	------	------	1	------	----
149	Other diseases of organs of locomotion	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
	X. MALFORMATIONS	260	135	125	250	1	2	2	5	248	1	1	------	247	11	1	1	------	----
150	(a) Hydrocephalus	31	19	12	31	------	------	------	------	29	1	1	------	22	8	------	1	------	----
	(b) Congenital malformation of heart, cyanosis	188	94	94	180	1	1	2	4	180	------	------	------	184	3	1	------	------	----
	(c) Other congenital malformations	41	22	19	39	------	1	------	1	39	------	------	------	41	------	------	------	------	----
	XI. EARLY INFANCY	998	574	424	951	10	3	7	27	949	2	------	------	998	------	------	------	------	----
151	(a) Premature birth	535	297	238	509	7	1	4	14	509	------	------	------	535	------	------	------	------	----
	*(b) Congenital debility	369	225	144	353	1	1	3	11	352	1	------	------	369	------	------	------	------	----
152	Other diseases of early infancy	78	43	35	77	1	------	------	------	77	------	------	------	78	------	------	------	------	----
153	Lack of care	16	9	7	12	1	1	------	2	11	1	------	------	16	------	------	------	------	----
	XII. OLD AGE	731	399	332	696	6	6	23	------	11	365	304	16	------	------	------	8	722	1
*154	Old age	731	399	332	696	6	6	23	------	11	365	304	16	------	------	------	8	722	1
	XIII. VIOLENCE	3,265	2,698	567	3,081	44	22	60	58	769	881	1,088	343	121	119	168	2,470	360	27
155	Suicide by poison	182	125	57	167	5	------	6	4	36	57	49	25	------	------	------	170	12	----
156	Suicide by asphyxia	59	42	17	58	------	------	------	1	11	21	20	6	------	------	------	53	6	----
157	Suicide by hanging or strangulation	73	68	5	63	1	------	5	4	8	14	33	8	------	------	1	61	11	----
158	Suicide by drowning	29	26	3	27	------	------	2	------	2	8	11	6	------	------	------	27	1	1
159	Suicide by firearms	287	264	23	271	3	2	4	7	50	96	93	32	------	------	------	256	30	1
160	Suicide by cutting instruments	44	41	3	42	------	2	------	------	6	9	18	9	------	------	------	38	6	----
161	Suicide by jumping from high places	7	6	1	7	------	------	------	------	------	2	5	------	------	------	------	4	3	----

162	Suicide by crushing	14	14	------	14	------	------	------	------	------	1	4	9	------	------	------	13	------	1
163	Other suicides	7	5	2	7	------	------	------	------	3	2	1	1	------	------	------	7	------	----
164	Fractures	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
165	Dislocations	4	4	------	3	------	------	1	------	------	2	1	------	------	------	------	2	2	----
†167	Burns and scalds	138	64	74	128	4	1	3	2	54	33	35	6	2	33	24	65	14	----
168	Burning by corrosive substances	1	1	------	1	------	------	------	------	------	------	1	------	------	------	------	1	------	----
169	Heat and sunstroke	26	24	2	25	------	------	------	1	7	8	7	3	3	1	2	16	4	----
170	Cold and freezing	21	20	1	19	1	------	1	------	4	4	4	7	------	------	------	15	6	----
171	Lghtning (electricity)	56	56	------	54	------	------	------	2	18	18	13	5	------	------	------	56	------	----
172	Drowning	334	301	33	316	5	4	4	5	93	66	94	63	1	19	33	254	15	12
173	Starvation, privation, etc.	2	2	------	1	------	------	------	1	------	------	------	1	------	------	------	2	------	----
174	Inhalation of poisonous gases	109	87	22	104	3	------	2	------	16	28	47	13	------	3	10	75	17	4
175	Other accidental poisonings	113	58	55	108	1	1	2	1	48	29	26	5	11	25	6	67	4	----
†166	(a) Accidental gunshot wounds	81	76	5	78	------	2	1	------	33	25	18	2	------	2	21	56	2	----
	(b) Injuries by machinery	47	43	4	46	1	------	------	------	15	17	12	2	------	2	2	42	1	----
	(c) Injuries in mines and quarries	72	72	------	72	------	------	------	------	9	11	47	5	------	------	------	69	2	1
	(d) Railroad accidents and injuries	465	427	38	447	3	1	5	9	68	127	171	81	------	10	17	381	56	1
	(e) Injuries by horses and vehicles	219	192	27	210	3	1	3	2	54	91	62	3	------	8	20	159	31	1
	(f) Other accidental traumatisms	532	429	103	514	4	3	5	6	87	172	223	32	4	7	26	363	128	4
176	(a) Suffocation	15	5	10	13	1	------	------	1	12	1	------	------	11	4	------	------	------	----
	(b) Injuries at birth	81	46	35	79	------	------	------	2	79	------	------	------	81	------	------	------	------	----
	(c) Homicide	238	193	45	198	9	5	16	10	53	36	90	19	7	3	6	213	8	1
	(d) Other external violence	9	7	2	9	------	------	------	------	3	3	3	------	1	2	------	5	1	----
	XIV. ILL-DEFINED DISEASES	170	106	64	155	2	4	5	4	106	30	14	5	94	13	5	36	18	4
*177	"Dropsy"	26	14	12	21	1	------	3	1	5	11	5	------	------	------	1	9	16	----
*178	Sudden death	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
*179	(a) Heart failure	3	1	2	3	------	------	------	------	1	1	1	------	------	1	1	1	------	----
	(b) Inanition (over 3 months)‡	57	38	19	56	------	1	------	------	49	6	1	------	47	8	------	2	------	----
	(c) Debility (over 3 months)‡	4	1	3	3	------	------	------	1	2	1	------	------	2	------	------	2	------	----
	(d) Marasmus (over 3 months)‡	49	30	19	45	1	------	1	2	42	2	1	------	43	4	2	------	------	----
	(e) Fever	1	1	------	1	------	------	------	------	1	------	------	------	1	------	------	------	------	----
	(f) Other ill-defined diseases	18	9	9	17	------	------	1	------	3	8	4	2	1	------	1	14	1	1
	(g) Unknown	12	12	------	9	------	3	------	------	3	1	2	3	------	------	------	8	1	3

*Indefinite and unsatisfactory title. †Order of titles changed.
‡Deaths reported from this cause, under 3 months of age, are compiled under "congenital debility" 151 (b).

TABLE 29.—*Deaths from each Specified Disease and Class of Diseases, classified by Sex, Race, Nativity, and Age Periods, for California: 1908.*

No	CAUSE OF DEATH.	Total Deaths	Male	Female	White	Negro	Indian	Chinese	Japanese	WHITE.				Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 64 Years	65 Years and Over	Age Unknown.
										Born in California	Born in Other States	Foreign Born	Unknown						
	ALL CAUSES	31,287	19,469	11,818	29,673	360	126	697	431	8,575	10,662	9,458	978	3,592	1,393	1,082	16,486	8,603	131
	I. GENERAL DISEASES	9,118	5,442	3,676	8,520	122	52	278	146	2,550	3,182	2,600	188	340	510	512	6,409	1,321	26
	(*A.*) *Epidemic diseases*	1,630	940	690	1,530	20	7	16	57	858	382	267	23	169	332	303	670	151	5
1	Typhoid fever	540	348	192	474	7	4	6	49	195	148	126	5	1	20	65	438	12	4
2	Exanthematic typhus																		
3	Relapsing fever	1		1	1					1							1		
4	Malarial fever	80	48	32	77	2		1		22	28	24	3	6	3	6	48	17	
5	Smallpox	9	5	4	9					6	2	1		4	1		4		
6	Measles	101	58	43	99		2			76	19	4		22	48	18	11	2	
7	Scarlet fever	104	59	45	102	1		1		86	11	4	1	7	32	49	16		
8	Whooping-cough	149	69	80	145	3		1		130	12	3		94	48	4	3		
9	(a) Diphtheria	332	179	153	325	5	1		1	244	60	17	4	5	135	144	47	1	
	(b) Croup	59	25	34	59					51	6	1	1	11	37	11			
10	Influenza	125	72	53	124	1				13	56	51	4	7	2		34	82	
11	Miliary fever																		
12	Asiatic cholera																		
13	Cholera nostras	6	4	2	4			2		1	2		1				5	1	
14	Dysentery	34	14	20	33				1	2	13	15	3		1		19	14	
15	Plague	5	3	2	4				1	3	1					2	3		
16	Yellow fever																		
17	Leprosy	5	3	2	4			1			1	2	1				5		
18	Erysipelas	61	39	22	58			3		19	21	18		8	2	1	27	22	1
19	Other epidemic diseases	19	14	5	12	1		1	5	9	2	1		4	3	3	9		
	(*B.*) *Other general diseases*	7,488	4,502	2,986	6,990	102	45	262	89	1,692	2,800	2,333	165	171	178	209	5,739	1,170	21
*20	Septicemia	89	39	50	81	2	1	3	2	20	41	19	1	2	4	1	67	14	1
21	Glanders and farcy	1	1		1							1					1		
22	Malignant pustule and charbon	2	1	1	2						1	1					1	1	
23	Rabies																		
24	Actinomycosis, trichinosis, etc.	3	1	2	3					1		2					3		
25	Pellagra																		
†27	Tuberculosis of lungs	3,945	2,576	1,369	3,589	73	33.	193	57	962	1,439	1,105	83	23	34	82	3,524	269	13
†26	Tuberculosis of larynx	35	25	10	32	1	1	1		8	12	12					35		
28	Tuberculous meningitis	233	129	104	222	3	2	2	4	165	41	15	1	55	86	41	50	1	
29	Abdominal tuberculosis	181	106	75	162	2	3	3	11	61	49	51	1	17	15	9	129	11	
30	Pott's disease	30	20	10	28	1			1	10	11	7		2		5	18	4	1
*31	Tuberculous abscess	2	1	1	2						1	1					2		
32	White swelling	19	12	7	18			1		9	6	3			3	4	12		
33	Tuberculosis of other organs	32	20	12	31	1				11	14	6		2	4	4	14	8	
34	General tuberculosis	88	52	36	82	3		2	1	32	25	24	1	8	5	4	66	5	

35	Scrofula	5	2	3	5	------	------	------	------	5	------	------	------	3	2	------	------	------	----
36	Syphilis	124	82	42	115	1	------	7	1	69	21	21	4	48	5	2	63	5	1
37	Gonorrhea of the adult	3	3	------	3	------	------	------	------	1	------	2	------	------	------	------	3	------	----
38	Gonorrheal infections of children	1	------	1	1	------	------	------	------	1	------	------	------	1	------	------	------	------	----
39	Cancer of mouth	52	47	5	51	------	1	------	------	6	16	29	------	1	------	------	30	21	----
40	Cancer of stomach and liver	741	436	305	711	5	------	18	7	44	299	355	13	------	------	------	445	295	1
41	Cancer of intestines and peritoneum	157	83	74	155	------	------	1	1	12	66	76	1	------	------	------	96	61	----
42	Cancer of genital organs	223	------	223	219	3	------	1	------	30	91	94	4	------	------	------	175	47	1
43	Cancer of breast	126	------	126	121	3	------	2	------	12	73	34	2	------	------	------	98	28	----
44	Cancer of skin	60	45	15	59	------	------	1	------	2	32	25	------	------	------	------	25	35	----
*45	Cancer of other or unspecified organs	378	228	150	369	------	------	9	------	42	182	139	6	------	5	4	231	137	1
*46	Tumor (noncancerous)	23	11	12	22	------	------	1	------	2	10	10	------	------	1	------	15	6	1
47	Acute articular rheumatism	106	57	49	105	------	------	------	1	47	34	22	2	2	3	27	63	10	1
48	Chronic rheumatism and gout	88	43	45	85	1	------	2	------	6	46	30	3	------	------	------	38	50	----
49	Scurvy	3	1	2	3	------	------	------	------	1	------	2	------	------	1	1	1	------	----
50	Diabetes	256	138	118	249	2	------	5	------	35	118	93	3	------	4	15	146	91	----
51	Exophthalmic goiter	31	5	26	31	------	------	------	------	6	13	12	------	------	------	1	26	4	----
52	Addison's disease	10	4	6	10	------	------	------	------	2	4	3	1	------	------	1	8	1	----
53	Leukemia	34	21	13	34	------	------	------	------	10	10	14	------	------	1	4	25	4	----
*54	Anemia, chlorosis	104	51	53	101	1	------	------	2	22	46	32	1	6	4	2	72	20	----
†56	Alcoholism	223	210	23	229	------	3	1	------	41	77	80	31	------	------	------	204	29	----
57	Lead poisoning	4	4	------	4	------	------	------	------	1	3	------	------	------	------	------	3	1	----
58	Other professional intoxications	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
59	Other chronic poisonings	49	44	5	39	------	1	9	------	11	15	6	7	------	------	------	43	6	----
†55	Other general diseases	17	4	13	16	------	------	------	1	5	4	7	------	1	1	2	7	6	----
	II. DISEASES OF THE NERVOUS SYSTEM	2,993	1,858	1,135	2,879	30	6	41	37	673	1,244	896	66	223	184	133	1,359	1,083	11
*60	Encephalitis	22	10	12	22	------	------	------	------	9	10	2	1	4	2	1	12	3	----
61	Meningitis	571	352	219	524	9	4	4	30	343	107	63	11	128	143	102	184	11	3
62	Locomotor ataxia	77	61	16	76	1	------	------	------	4	40	30	2	------	------	------	55	22	----
63	Other diseases of spinal cord	121	84	37	120	1	------	------	------	14	56	49	1	2	4	1	75	39	----
64	Apoplexy	1,112	669	443	1,079	10	1	20	2	71	555	425	28	5	2	2	482	617	4
65	Softening of brain	67	36	31	67	------	------	------	------	9	32	26	------	------	------	------	18	49	----
*66	Paralysis	393	242	151	378	3	1	10	1	19	212	143	4	1	2	1	113	275	1
67	General parålysis of insane	122	98	24	120	------	------	1	1	15	61	38	6	------	------	------	99	22	1
68	Other forms of mental disease	107	61	46	106	------	------	1	------	18	51	33	4	------	------	------	104	3	----
74	a(pt). Other diseases of brain	122	84	38	119	1	------	1	1	27	43	47	2	------	4	5	95	16	2
69	Epilepsy	86	46	40	84	1	------	1	------	25	38	16	5	------	4	9	64	9	----
*70	Convulsions (nonpuerperal)	6	4	2	6	------	------	------	------	3	3	------	------	------	------	1	4	1	----
*71	Convulsions of children	91	58	33	86	2	------	1	2	83	2	1	------	73	17	------	------	1	----
72	Tetanus	28	20	8	26	------	------	2	------	18	5	3	------	7	1	7	12	1	----
73	Chorea	6	4	2	6	------	------	------	------	1	2	2	1	------	------	1	4	1	----
74	b(pt). Other diseases of nervous system	40	19	21	38	2	------	------	------	4	18	15	1	------	1	1	28	10	----
75	Diseases of the eye and its adnexa	2	1	1	2	------	------	------	------	1	1	------	------	------	1	------	------	1	----
76	Diseases of the ear	20	9	11	20	------	------	------	------	9	8	3	------	3	3	2	10	2	----

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TABLE 29. *Deaths from each Specified Disease and Class of Diseases classified by Sex, Race, Nativity, and Age Periods, for California: 1908*—Continued.

No.	CAUSE OF DEATH.	Total Deaths	Male	Female	White	Negro	Indian	Chinese	Japanese	WHITE.				Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 64 Years	65 Years and Over	Age Unknown.
										Born in California	Born in Other States	Foreign Born	Unknown						
	III. DISEASES OF THE CIRCULATORY SYSTEM	4,540	2,875	1,665	4.369	47	9	93	22	349	1,968	1,912	140	5	6	56	2,069	2,390	16
77	Pericarditis	35	27	8	30	1	------	3	1	5	9	11	5	------	1	2	24	7	1
78	Endocarditis	20	12	8	19	------	------	------	1	8	6	5	------	------	------	6	14	------	----
79	Heart disease	3,736	2,354	1,382	3,587	43	7	83	16	283	1,585	1,598	121	2	1	44	1,788	1,888	13
80	Angina pectoris	110	76	34	104	2	------	1	3	3	70	30	1	------	------	------	48	62	----
81	Diseases of arteries	515	335	180	512	------	1	2	------	10	266	226	10	------	------	------	134	379	2
82	Embolism and thrombosis	84	45	39	82	------	------	2	------	25	26	28	3	------	1	------	38	45	----
83	Diseases of veins	12	6	6	10	1	1	------	------	3	------	7	------	------	------	1	8	3	----
84	Diseases of lymphatics	2	1	1	2	------	------	------	------	1	------	1	------	------	------	------	1	1	----
*85	Hemorrhages (except of lungs)	25	19	6	22	------	------	2	1	10	6	6	------	1	3	3	13	5	----
86	Other diseases of circulatory system	1	------	1	1	------	------	------	------	1	------	------	------	------	------	------	1	------	----
	IV. DISEASES OF THE RESPIRATORY SYSTEM	3,282	2,024	1,258	3,129	37	10	65	41	963	1,016	1,057	93	498	253	78	1,369	1,075	9
*87	Diseases of nasal fossae	4	4	------	4	------	------	------	------	4	------	------	------	2	1	1	------	------	----
88	(a) Laryngitis	18	8	10	17	------	------	------	1	12	4	------	1	1	8	2	6	1	----
	(b) Other diseases of larynx	2	------	2	2	------	------	------	------	1	1	------	------	------	------	------	2	------	----
89	Diseases of the thyroid body	3	------	3	3	------	------	------	------	1	1	1	------	------	------	1	2	------	----
90	Acute bronchitis	130	71	59	116	3	------	3	8	111	5	------	------	97	30	2	1	------	----
91	Chronic bronchitis	342	202	140	338	------	------	3	1	14	145	178	1	1	------	6	83	252	----
92	Broncho-pneumonia	482	264	218	467	2	1	5	7	240	113	108	6	159	77	11	89	146	----
93	Pneumonia	1,939	1,238	701	1,837	30	9	45	18	527	610	631	69	218	131	47	1,015	521	7
94	Pleurisy	86	53	33	79	1	------	1	5	13	30	30	6	------	------	4	59	23	----
*95	Congestion of lungs	117	74	43	112	------	------	4	1	31	40	37	4	20	6	3	29	58	1
96	Gangrene of lungs	5	5	------	5	------	------	------	------	2	2	1	------	------	------	------	2	3	----
97	Asthma	92	56	36	88	1	------	3	------	4	40	41	3	------	------	1	36	54	1
98	Emphysema	16	14	2	16	------	------	------	------	------	5	11	------	------	------	------	10	6	----
*99	(a) Hemorrhage of lungs	32	23	9	31	------	------	1	------	2	14	12	3	------	------	------	25	7	----
	(b) Other diseases of respiratory system	14	12	2	14	------	------	------	------	1	6	7	------	------	------	------	10	4	----
	V. DISEASES OF THE DIGESTIVE SYSTEM	2,811	1,629	1,182	2,645	33	9	55	69	1,333	670	600	42	870	267	104	1,092	475	3
100	Diseases of mouth	7	5	2	6	1	------	------	------	6	------	------	------	6	------	------	1	------	----
101	(a) Tonsilitis	26	14	12	26	------	------	------	------	15	9	2	------	1	8	8	8	1	----
	(b) Diseases of pharynx	8	4	4	8	------	------	------	------	2	6	------	------	------	1	1	4	2	----
102	Diseases of esophagus	2	------	2	2	------	------	------	------	1	1	------	------	------	------	------	1	1	----
103	Ulcer of stomach	100	60	40	96	2	------	1	1	22	40	32	2	------	1	3	71	25	----
104	*(a) Gastritis	125	65	60	119	2	1	1	2	12	63	44	------	------	------	2	58	65	----
	(b) Other diseases of stomach	49	34	15	47	------	------	2	------	4	18	23	2	1	1	------	34	13	----

*1001	Dentition†	29	16	13	29	------	------	------	------	27	2	------	------	15	14	------	------	------	----
105	Diarrhea and enteritis (under 2 years)	922	506	416	872	5	3	11	31	841	22	9	------	793	129	------	------	------	----
106	Diarrhea and enteritis (2 years and over)	243	127	116	228	4	1	7	3	95	64	65	4	------	75	22	71	75	----
107	Intestinal parasites	1	------	1	1	------	------	------	------	------	1	------	------	------	1	------	------	------	----
108	(a) Hernia	66	41	25	64	1	------	1	------	7	21	34	2	3	------	------	34	29	----
	(b) Obstruction of intestines	193	105	88	175	6	2	6	4	74	55	43	3	40	22	8	71	51	1
109	Other diseases of intestines	64	31	33	57	1	------	3	3	17	19	19	2	8	1	2	37	16	----
110	Acute yellow atrophy of liver	3	2	1	3	------	------	------	------	1	1	1	------	------	------	------	1	2	----
111	Hydatid tumors of liver	1	1	------	1	------	------	------	------	1	------	------	------	------	------	------	1	------	----
112	Cirrhosis of liver	370	252	118	354	7	1	6	2	43	127	171	13	------	------	------	281	89	----
113	Biliary calculi	41	19	22	39	------	------	2	------	3	12	22	2	------	------	1	25	14	1
114	Other diseases of liver	161	93	68	152	------	------	6	3	28	75	46	3	1	4	5	97	54	----
115	Diseases of spleen	6	6	------	6	------	------	------	------	1	1	3	1	------	------	------	4	2	----
116	Peritonitis (nonpuerperal)	146	75	71	131	2	1	5	7	37	53	40	1	2	4	8	109	22	1
†118	Appendicitis	241	168	73	222	2	------	4	13	95	76	44	7	------	6	44	178	13	----
†117	Other diseases of digestive system	7	5	2	7	------	------	------	------	1	4	2	------	------	------	------	6	1	----
	VI. DISEASES OF THE GENITO-URINARY SYSTEM	2,169	1,271	898	2,098	26	2	34	9	270	1,006	754	68	13	9	31	1,179	927	10
119	Acute nephritis	68	33	35	63	1	------	------	4	30	22	10	1	11	8	10	37	2	----
120	Bright's disease	1,729	1,061	668	1,671	20	2	32	4	189	807	620	55	1	1	20	933	767	7
121	Other diseases of kidneys	53	34	19	53	------	------	------	------	6	25	21	1	1	------	------	28	24	----
122	Calculi of urinary tract	4	1	3	4	------	------	------	------	------	3	1	------	------	------	------	2	2	----
123	Diseases of bladder	97	82	15	95	------	------	2	------	1	44	47	3	------	------	------	21	76	----
124	Diseases urethra, urinary abscess, etc.	4	2	2	4	------	------	------	------	1	2	1	------	------	------	------	3	1	----
125	Diseases of prostate	57	57	------	56	1	------	------	------	1	31	22	2	------	------	------	11	45	1
126	Nonvenereal diseases of (male) genital organs	1	1	------	1	------	------	------	------	------	------	------	1	------	------	------	1	------	----
127	Metritis	5	------	5	5	------	------	------	------	1	2	2	------	------	------	------	5	------	----
128	Uterine hemorrhage (nonpuerperal)	6	------	6	6	------	------	------	------	1	4	------	1	------	------	------	5	1	----
129	Uterine tumor (noncancerous)	28	------	28	27	1	------	------	------	7	12	7	1	------	------	------	25	3	----
130	Other diseases of uterus	38	------	38	37	1	------	------	------	10	21	5	1	------	------	1	35	1	1
131	Ovarian tumors	30	------	30	28	2	------	------	------	5	13	10	------	------	------	------	25	5	----
132	(a) Diseases of tubes	48	------	48	47	------	------	------	1	18	19	8	2	------	------	------	47	------	1
	(b) Other diseases of female genital organs	1	------	1	1	------	------	------	------	------	1	------	------	------	------	------	1	------	----
133	Nonpuerperal diseases of the breast (cancer excepted)	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
	VII. CHILDBIRTH	339	------	339	330	3	1	1	4	132	108	89	1	------	------	------	339	------	----
134	Accidents of pregnancy	95	------	95	91	3	------	------	1	33	38	20	------	------	------	------	95	------	----
135	Puerperal hemorrhage	21	------	21	21	------	------	------	------	3	9	9	------	------	------	------	21	------	----
136	Other accidents of labor	31	------	31	31	------	------	------	------	7	13	11	------	------	------	------	31	------	----
137	Puerperal septicemia	84	------	84	82	------	------	------	2	38	18	25	1	------	------	------	84	------	----
138	Puerperal convulsions	78	------	78	76	------	1	1	------	36	23	17	------	------	------	------	78	------	----
139	Puerperal phlegmasia alba dolens	1	------	1	1	------	------	------	------	------	1	------	------	------	------	------	1	------	----
140	Other puerperal accidents	29	------	29	28	------	------	------	1	15	6	7	------	------	------	------	29	------	----
141	Puerperal diseases of the breast	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----

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*Indefinite and unsatisfactory title. †Order of titles changed.

TABLE 29.—*Deaths from each Specified Disease and Class of Diseases, classified by Sex, Race, Nativity, and Age Period, for California: 1908*—Continued.

No.	CAUSE OF DEATH.	Total Deaths	Male	Female	White	Negro	Indian	Chinese	Japanese	WHITE.				Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 64 Years	65 Years and Over	Age Unknown
										Born in California	Born in Other States	Foreign Born	Unknown						
	VIII. DISEASES OF THE SKIN	129	89	40	127	1	------	1	------	20	57	49	1	9	3	1	38	78	----
142	Gangrene	70	48	22	68	1	------	1	------	1	33	33	1	------	1	------	12	57	----
143	Carbuncle	13	11	2	13	------	------	------	------	1	10	2	------	------	------	------	9	4	----
*144	Abscess	22	14	8	22	------	------	------	------	6	9	7	------	3	------	------	10	9	----
145	Other diseases of the skin	24	16	8	24	------	------	------	------	12	5	7	------	6	2	1	7	8	----
	IX. DISEASES OF THE LOCOMOTOR SYSTEM	60	36	24	58	1	------	1	------	23	16	19	------	11	5	6	29	9	----
146	Diseases of bones	55	31	24	53	1	------	1	------	23	15	15	------	11	5	5	27	7	----
147	Diseases of joints	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----
*148	Amputation	3	3	------	3	------	------	------	------	------	1	2	------	------	------	1	2	------	----
149	Other diseases of organs of locomotion	2	2	------	2	------	------	------	------	------	------	2	------	------	------	------	------	2	----
	X. MALFORMATIONS	268	146	122	266	1	------	------	1	259	7	------	------	242	14	8	4	------	----
150	(a) Hydrocephalus	25	12	13	25	------	------	------	------	23	2	------	------	18	2	2	3	------	----
	(b) Congenital malformation of heart, cyanosis	189	105	84	188	------	------	------	1	184	4	------	------	174	9	6	------	------	----
	(c) Other congenital malformations	54	29	25	53	1	------	------	------	52	1	------	------	50	3	------	1	------	----
	XI. EARLY INFANCY	1,108	644	464	1,054	15	3	8	28	1,053	1	------	------	1,108	------	------	------	------	----
151	(a) Premature birth	523	291	232	503	7	1	2	10	503	------	------	------	523	------	------	------	------	----
	*(b) Congenital debility	490	296	194	465	6	1	3	15	464	1	------	------	490	------	------	------	------	----
152	Other diseases of early infancy	85	51	34	77	2	1	3	2	77	------	------	------	85	------	------	------	------	----
153	Lack of care	10	6	4	9	------	------	------	1	9	------	------	------	10	------	------	------	------	----
	XII. OLD AGE	869	515	354	832	4	14	19	------	10	438	362	22	------	------	------	21	843	5
*154	Old age	869	515	354	832	4	14	19	------	10	438	362	22	------	------	------	21	843	5
	XIII. VIOLENCE	3,326	2,779	547	3,102	37	19	97	71	763	920	1,086	333	119	124	148	2,506	387	42
155	Suicide by poison	242	165	77	233	3	------	5	1	63	85	60	25	------	------	1	217	24	----
156	Suicide by asphyxia	39	29	10	39	------	------	------	------	8	10	17	4	------	------	------	37	2	----
157	Suicide by hanging or strangulation	67	60	7	52	------	------	8	7	3	9	33	7	------	------	1	59	6	1
158	Suicide by drowning	27	25	2	26	1	------	------	------	1	5	12	8	------	------	------	22	3	2
159	Suicide by firearms	292	273	19	274	7	1	------	10	52	95	86	41	------	------	2	265	23	2
160	Suicide by cutting instruments	64	59	5	58	------	------	3	3	9	16	26	7	------	------	------	56	6	2
161	Suicide by jumping from high places	8	8	------	6	------	------	1	1	------	2	3	1	------	------	------	6	2	----

162	Suicide by crushing	12	12	------	10	------	------	------	2	1	------	3	6	------	------	------	12	------	----
163	Other suicides	6	6	------	5	------	------	1	------	------	------	3	2	------	------	------	5	------	1
164	Fractures	13	8	5	12	------	------	1	------	1	3	7	1	------	------	------	6	7	----
165	Dislocations	1	------	1	1	------	------	------	------	1	------	------	------	------	------	------	1	------	----
†167	Burns and scalds	138	73	65	132	2	1	3	------	48	45	37	2	4	32	18	63	20	1
168	Burning by corrosive substances	6	2	4	6	------	------	------	------	2	2	2	------	1	------	------	5	------	----
169	Heat and sunstroke	55	45	10	52	------	------	2	1	4	17	25	6	3	------	1	34	16	1
170	Cold and freezing	19	19	------	16	------	1	2	------	5	5	4	2	------	------	2	10	7	----
171	Lightning (electricity)	37	36	1	36	------	------	1	------	11	14	10	1	------	------	1	35	1	----
172	Drowning	273	255	18	255	5	1	5	7	67	52	82	54	------	20	30	203	9	11
173	Starvation, privation, etc.	8	7	1	4	------	------	4	------	1	1	1	1	1	------	------	3	3	1
174	Inhalation of poisonous gases	87	64	23	76	2	------	7	2	14	18	39	5	1	3	2	67	13	1
175	Other accidental poisonings	134	91	43	127	3	------	2	2	59	38	22	8	3	36	12	67	14	2
†166	(a) Accidental gunshot wounds	91	86	5	88	------	2	------	1	44	25	16	3	------	6	11	72	2	----
	(b) Injuries by machinery	38	37	1	37	------	------	1	------	8	10	18	1	------	------	3	34	1	----
	(c) Injuries in mines and quarries	60	60	------	56	------	------	3	1	7	9	34	6	------	------	1	58	------	1
	(d) Railroad accidents and injuries	479	425	54	457	4	5	5	8	79	124	172	82	2	5	24	392	50	6
	(e) Injuries by horses and vehicles	233	209	24	220	1	2	3	7	68	76	66	10	2	8	18	173	32	----
	(f) Other accidental traumatisms	553	458	95	518	1	3	26	5	79	198	209	32	10	11	18	373	132	9
176	(a) Suffocation	26	15	11	25	------	------	------	1	20	2	3	------	19	1	1	3	2	----
	(b) Injuries at birth	67	44	23	66	1	------	------	------	66	------	------	------	67	------	------	------	------	----
	(c) Homicide	244	203	41	208	7	3	14	12	38	57	95	18	6	------	1	224	12	1
	(d) Other external violence	7	5	2	7	------	------	------	------	4	2	1	------	------	2	1	4	------	----
	XIV. ILL-DEFINED DISEASES	275	161	144	264	3	1	4	3	177	29	34	24	156	18	5	72	15	9
*177	"Dropsy"	26	14	12	24	------	------	2	------	3	10	10	1	1	------	1	9	15	----
*178	Sudden death	2	2	------	2	------	------	------	------	------	1	1	------	------	------	------	2	------	----
*179	(a) Heart failure	14	11	3	14	------	------	------	------	5	5	3	1	2	1	------	10	------	1
	(b) Inanition (over 3 months)‡	94	48	46	93	------	------	------	1	85	2	5	1	77	11	1	5	------	----
	(c) Debility (over 3 months)‡	7	2	5	6	1	------	------	------	5	1	------	------	4	1	------	2	------	----
	(d) Marasmus (over 3 months)‡	77	41	36	74	1	------	1	1	68	2	4	------	69	4	------	3	------	1
	(e) Fever	2	------	2	2	------	------	------	------	1	1	------	------	1	------	------	1	------	----
	(f) Other ill-defined diseases	17	11	6	16	------	------	------	1	5	6	5	------	1	------	1	14	------	1
	(g) Unknown	36	32	4	33	1	1	1	------	5	1	6	21	1	1	2	26	------	6

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*Indefinite and unsatisfactory title. †Order of titles changed.

‡Deaths reported from this cause, under 3 months of age, are compiled under "congenital debility" 151 (b).

TABLE 30.—*Deaths from Certain Principal Causes, with Proportion per 1,000*

CAUSE OF DEATH.	26 Freeholders' Charter Cities	Northern California.				Central		
		Eureka	Napa	Santa Rosa	GrassValley	San Francisco	Alameda	Berkeley
DEATHS.								
ALL CAUSES	17,472	180	70	105	58	6,150	309	405
Typhoid fever	221	1	1	3	------	60	1	5
Malarial fever	31	------	------	------	------	7	------	------
Smallpox	2	------	------	------	------	------	------	------
Measles	71	1	1	------	------	29	------	2
Scarlet fever	47	------	------	------	------	18	1	------
Whooping-cough	133	2	1	------	------	51	3	8
Diphtheria and croup	129	4	------	------	------	51	1	2
Influenza	26	------	------	------	------	5	------	1
Plague	------	------	------	------	------	------	------	------
Other epidemic diseases	64	1	------	1	------	28	------	------
Tuberculosis of lungs	2,209	13	5	12	9	675	27	31
Tuberculosis of other organs	389	1	------	1	------	147	7	13
Cancer	1,244	19	5	6	3	490	27	38
Other general diseases	683	6	5	4	1	245	12	22
Meningitis	240	2	3	1	------	68	4	3
Other diseases of nervous system	1,239	15	10	17	5	308	33	31
Diseases of circulatory system	2,907	27	10	12	15	1,166	58	86
Pneumonia and broncho-pneumonia	1,178	5	4	8	4	459	18	22
Other diseases of respiratory system	511	11	2	3	------	205	10	8
Diarrhea and enteritis, under 2 years	491	3	1	3	1	163	6	13
Diarrhea and enteritis, 2 years and over	153	------	------	1	1	50	3	7
Other diseases of digestive system	953	12	7	6	3	318	25	22
Bright's disease and nephritis	1,170	5	4	5	4	390	19	21
Childbirth	172	1	1	3	1	72	5	5
Diseases of early infancy	619	5	2	4	2	221	9	19
Suicide	443	3	1	2	1	219	7	3
Other violence	1,220	30	3	7	6	436	23	21
All other causes	927	13	4	6	2	269	10	22
PROPORTION PER 1,000 TOTAL DEATHS.								
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	12.7	5.6	14.3	28.6	------	9.8	3.2	12.4
Malarial fever	1.8	------	------	------	------	1.1	------	------
Smallpox	0.1	------	------	------	------	------	------	------
Measles	4.1	5.6	14.3	------	------	4.7	------	4.9
Scarlet fever	2.7	------	------	------	------	2.9	3.2	------
Whooping-cough	7.6	11.1	14.3	------	------	8.3	9.7	19.7
Diphtheria and croup	7.4	22.2	------	------	------	8.3	3.2	4.9
Influenza	1.5	------	------	------	------	0.8	------	2.5
Plague	------	------	------	------	------	------	------	------
Other epidemic diseases	3.7	5.6	------	9.5	------	4.6	------	------
Tuberculosis of lungs	126.4	72.2	71.4	114.3	155.2	109.8	87.4	76.6
Tuberculosis of other organs	22.3	5.5	------	9.5	------	23.9	22.7	32.1
Cancer	71.2	105.5	71.4	57.1	51.7	79.7	87.4	93.8
Other general diseases	39.1	33.3	71.4	38.1	17.2	39.8	38.8	54.3
Meningitis	13.7	11.1	42.9	9.5	------	11.1	12.9	7.4
Other diseases of nervous system	70.9	83.3	142.9	161.9	86.2	50.1	106.8	76.5
Diseases of circulatory system	166.4	150.0	142.9	114.3	258.7	189.6	187.7	212.4
Pneumonia and broncho-pneumonia	67.2	27.8	57.1	76.2	69.0	74.6	58.3	54.3
Other diseases of respiratory system	29.2	61.1	28.6	28.6	------	33.3	32.4	19.7
Diarrhea and enteritis, under 2 years	28.1	16.7	14.3	28.6	17.2	26.5	19.4	32.1
Diarrhea and enteritis, 2 years and over	8.8	------	------	9.5	17.2	8.1	9.7	17.3
Other diseases of digestive system	54.5	66.7	100.0	57.1	51.7	51.7	80.9	54.3
Bright's disease and nephritis	67.0	27.8	57.1	47.6	69.0	63.4	61.5	51.9
Childbirth	9.9	5.5	14.3	28.6	17.2	11.7	16.2	12.4
Diseases of early infancy	35.4	27.8	28.6	38.1	34.5	35.9	29.1	46.9
Suicide	25.4	16.7	14.3	19.1	17.2	35.6	22.7	7.4
Other violence	69.8	166.7	42.8	66.7	103.5	70.9	74.4	51.9
All other causes	53.1	72.2	57.1	57.1	34.5	43.8	32.4	54.3

Total Deaths, for Freeholders' Charter Cities arranged Geographically: 1909.

California.

Oakland	Richmond	Salinas	Palo Alto	San Jose	Santa Cruz	Watsonville	Fresno	Sacramento	Stockton	Vallejo
1,642	92	68	48	386	190	103	288	698	455	172
13	--------	2	--------	2	5	--------	17	21	1	4
2	--------	--------	--------	--------	2	--------	1	8	3	--------
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
4	1	--------	--------	3	--------	1	--------	3	1	--------
3	1	--------	--------	1	3	--------	1	2	--------	--------
20	1	--------	--------	--------	2	1	--------	5	1	--------
18	--------	--------	--------	2	1	1	8	2	--------	3
2	--------	--------	--------	2	--------	--------	2	1	--------	--------
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
6	--------	--------	--------	1	1	1	--------	6	1	--------
180	8	6	4	40	22	10	25	75	69	19
35	--------	4	2	15	5	3	7	14	6	2
112	2	9	4	32	17	6	16	34	22	6
56	1	5	--------	8	4	8	8	31	10	14
26	1	1	--------	7	1	6	7	12	5	3
127	3	4	2	28	22	7	6	35	95	18
303	10	6	9	73	41	12	33	85	80	26
112	8	5	--------	26	8	7	26	50	31	10
43	2	3	--------	15	2	--------	14	30	16	2
58	5	1	1	16	6	2	17	29	3	3
6	--------	1	--------	2	--------	1	5	6	13	1
86	6	2	2	20	11	4	17	49	14	8
131	3	5	7	35	7	6	9	44	28	12
20	1	1	2	4	2	1	4	6	4	2
46	5	2	4	10	1	11	20	26	2	6
43	1	3	2	7	4	2	8	20	4	5
121	29	4	7	19	10	5	28	45	19	17
69	4	4	2	18	13	8	9	59	27	11
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
7.9	--------	29.4	--------	5.2	26.3	--------	59.0	30.1	2.2	23.3
1.2	--------	--------	--------	--------	10.5	--------	3.5	11.5	6.6	--------
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
2.4	10.9	--------	--------	7.8	--------	9.7	--------	4.3	2.2	--------
1.8	10.9	--------	--------	2.6	15.8	--------	3.5	2.9	--------	--------
12.2	10.9	--------	--------	--------	10.5	9.7	--------	7.2	2.2	--------
11.0	--------	--------	--------	5.2	5.3	9.7	27.8	2.9	--------	17.4
1.2	--------	--------	--------	5.2	--------	--------	6.9	1.4	--------	--------
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
3.7	--------	--------	--------	2.6	5.3	9.7	--------	8.6	2.2	--------
109.6	87.0	88.3	83.3	103.6	115.8	97.1	86.8	107.5	151.6	110.5
21.3	--------	58.8	41.7	38.9	26.3	29.1	24.3	20.1	13.2	11.6
68.2	21.7	132.4	83.3	82.9	89.5	58.3	55.6	48.7	48.3	34.9
34.1	10.9	73.6	--------	20.7	21.1	77.7	27.8	44.4	22.0	81.4
15.8	10.9	14.7	--------	18.1	5.3	58.3	24.3	17.2	11.0	17.4
77.4	32.6	58.8	41.7	72.5	115.8	68.0	20.8	50.1	208.8	104.7
184.5	108.7	88.3	187.5	189.1	215.8	116.5	114.6	121.8	175.8	151.2
68.2	86.9	73.5	--------	67.4	42.1	68.0	90.3	71.6	68.1	58.1
26.2	21.7	44.1	--------	38.9	10.5	--------	48.6	43.0	35.1	11.6
35.3	54.3	14.7	20.8	41.4	31.6	19.4	59.0	41.5	6.6	17.4
3.7	--------	14.7	--------	5.2	--------	9.7	17.4	8.6	28.6	5.8
52.4	65.2	29.4	41.7	51.8	57.9	38.8	59.0	70.2	31.0	46.5
79.8	32.6	73.5	145.8	90.7	36.8	58.3	31.3	63.0	61.5	69.8
12.2	10.9	14.7	41.7	10.4	10.5	9.7	13.9	8.6	8.8	11.6
28.0	54.3	29.4	83.3	25.9	5.3	106.8	69.4	37.2	4.4	34.9
26.2	10.9	44.1	41.7	18.1	21.0	19.4	27.8	28.6	8.8	29.1
73.7	315.2	58.8	145.8	49.2	52.6	48.5	97.2	64.5	41.7	98.8
42.0	43.5	58.8	41.7	46.6	68.4	77.7	31.2	84.5	59.3	64.0

TABLE 30.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Freeholders' Charter Cities arranged Geographically: 1909—Continued.*

CAUSE OF DEATH.	Southern California.							
	Los Angeles	Long Beach	Pasadena	Santa Monica	Riverside	San Bernardino	San Diego	Santa Barbara
DEATHS.								
ALL CAUSES	4,013	235	410	103	238	250	601	203
Typhoid fever	48	6	4	1	12	11	------	3
Malarial fever	5	------	------	------	------	------	------	3
Smallpox	1	1	------	------	------	------	------	------
Measles	20	------	------	------	2	2	1	------
Scarlet fever	13	------	1	------	1	1	------	1
Whooping-cough	28	------	------	------	2	5	1	2
Diphtheria and croup	24	1	------	------	6	------	3	2
Influenza	4	------	3	------	1	------	3	2
Plague	------	------	------	------	------	------	------	------
Other epidemic diseases	14	1	1	------	1	------	1	------
Tuberculosis of lungs	661	15	89	12	43	64	79	16
Tuberculosis of other organs	80	4	12	2	8	2	14	5
Cancer	280	18	22	7	10	12	34	13
Other general diseases	156	9	19	5	10	12	25	7
Meningitis	66	4	6	1	2	2	6	3
Other diseases of nervous system	287	25	44	9	17	14	55	22
Diseases of circulatory system	542	44	60	17	34	17	107	34
Pneumonia and broncho-pneumonia	231	14	28	8	9	27	50	8
Other diseases of respiratory system	93	6	9	2	7	5	14	9
Diarrhea and enteritis, under 2 years	113	6	5	------	10	12	12	2
Diarrhea and enteritis, 2 years and over	39	3	3	------	------	------	9	2
Other diseases of digestive system	230	15	24	7	12	11	33	9
Bright's disease and nephritis	299	27	28	8	15	12	32	14
Childbirth	28	2	3	1	1	1	------	1
Diseases of early infancy	156	8	13	5	9	6	16	11
Suicide	80	1	------	1	1	8	14	3
Other violence	266	11	17	6	11	19	46	14
All other causes	249	14	19	11	14	7	46	17
PROPORTION PER 1,000 TOTAL DEATHS.								
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	12.0	25.5	9.8	9.7	50.4	44.0	------	14.8
Malarial fever	1.2	------	------	------	------	------	------	14.8
Smallpox	0.2	4.3	------	------	------	------	------	------
Measles	5.0	------	------	------	8.4	8.0	1.7	------
Scarlet fever	3.2	------	2.4	------	4.2	4.0	------	4.9
Whooping-cough	7.0	------	------	------	8.4	20.0	1.7	9.9
Diphtheria and croup	6.0	4.3	------	------	25.2	------	5.0	9.9
Influenza	1.0	------	7.3	------	4.2	------	5.0	9.9
Plague	------	------	------	------	------	------	------	------
Other epidemic diseases	3.5	4.3	2.4	------	4.2	------	1.7	------
Tuberculosis of lungs	164.7	63.8	217.1	116.5	180.7	256.0	131.4	78.8
Tuberculosis of other organs	19.9	17.0	29.3	19.4	33.6	8.0	23.3	24.6
Cancer	69.8	76.6	53.7	68.0	42.0	48.0	56.6	64.0
Other general diseases	38.9	38.3	46.3	48.5	42.0	48.0	41.6	34.5
Meningitis	16.4	17.0	14.6	9.7	8.4	8.0	10.0	14.8
Other diseases of nervous system	71.5	106.4	107.3	87.4	71.5	56.0	91.5	108.4
Diseases of circulatory system	135.1	187.2	146.4	165.0	142.9	68.0	178.0	167.5
Pneumonia and broncho-pneumonia	57.6	59.6	68.3	77.7	37.8	108.0	83.2	39.4
Other diseases of respiratory system	23.2	25.5	22.0	19.4	29.4	20.0	23.3	44.3
Diarrhea and enteritis, under 2 years	28.2	25.5	12.2	------	42.0	48.0	20.0	9.8
Diarrhea and enteritis, 2 years and over	9.7	12.8	7.3	------	------	------	15.0	9.8
Other diseases of digestive system	57.3	63.8	58.5	68.0	50.4	44.0	54.9	44.3
Bright's disease and nephritis	74.5	114.9	68.3	77.7	63.0	48.0	53.2	69.0
Childbirth	7.0	8.5	7.3	9.7	4.2	4.0	------	4.9
Diseases of early infancy	38.9	34.0	31.7	48.5	37.8	24.0	26.6	54.2
Suicide	19.9	4.3	------	9.7	4.2	32.0	23.3	14.8
Other violence	66.3	46.8	41.5	58.3	46.2	76.0	76.5	69.0
All other causes	62.0	59.6	46.3	106.8	58.9	28.0	76.5	83.7

TABLE 31.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Freeholders' Charter Cities arranged Geographically: 1908.*

CAUSE OF DEATH.	24 Freeholders' Charter Cities	Northern California.			
		Eureka	Napa	Santa Rosa	Grass Valley
DEATHS.					
ALL CAUSES	17,480	198	77	107	88
Typhoid fever	267	2		1	1
Malarial fever	24			2	1
Smallpox	4				
Measles	54				1
Scarlet fever	35				
Whooping-cough	71		1		
Diphtheria and croup	207		2		2
Influenza	50	1		1	
Plague	3				
Other epidemic diseases	66				1
Tuberculosis of lungs	2,243	15	7	10	7
Tuberculosis of other organs	377	10	1	2	1
Cancer	1,129	16	3	5	7
Other general diseases	621	11	3	6	4
Meningitis	325	5	1	2	1
Other diseases of nervous system	1,266	14	9	16	2
Diseases of circulatory system	2,671	29	14	18	15
Pneumonia and broncho-pneumonia	1,371	10	9	11	8
Other diseases of respiratory system	501	3	6	6	1
Diarrhea and enteritis, under 2 years	489	3	1	4	
Diarrhea and enteritis, 2 years and over	138	5	1	1	
Other diseases of digestive system	989	5	6	6	10
Bright's disease and nephritis	1,109	6	5	5	
Childbirth	202	2			3
Diseases of early infancy	664	7	1	4	6
Suicide	475	7	1	1	2
Other violence	1,178	28	3	4	6
All other causes	951	19	3	2	9
PROPORTION PER 1,000 TOTAL DEATHS.					
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	15.3	10.1		9.3	11.4
Malarial fever	1.4			18.7	11.4
Smallpox	0.2				
Measles	3.1				11.4
Scarlet fever	2.0				
Whooping-cough	4.1		13.0		
Diphtheria and croup	11.8		26.0		22.7
Influenza	2.9	5.0		9.3	
Plague	0.2				
Other epidemic diseases	3.8				11.4
Tuberculosis of lungs	128.3	75.8	90.9	93.5	79.5
Tuberculosis of other organs	21.6	50.5	13.0	18.7	11.4
Cancer	64.6	80.8	39.0	46.7	79.6
Other general diseases	35.5	55.6	39.0	56.1	45.4
Meningitis	18.6	25.3	13.0	18.7	11.4
Other diseases of nervous system	72.4	70.7	116.8	149.6	22.7
Diseases of circulatory system	152.8	146.5	181.8	168.2	170.4
Pneumonia and broncho-pneumonia	78.4	50.5	116.8	102.8	90.9
Other diseases of respiratory system	28.6	15.1	77.9	56.1	11.4
Diarrhea and enteritis, under 2 years	28.0	15.1	13.0	37.4	
Diarrhea and enteritis, 2 years and over	7.9	25.3	13.0	9.3	
Other diseases of digestive system	56.6	25.3	77.9	56.1	113.6
Bright's disease and nephritis	63.4	30.3	64.9	46.7	
Childbirth	11.5	10.1			34.1
Diseases of early infancy	38.0	35.3	13.0	37.4	68.2
Suicide	27.2	35.3	13.0	9.3	22.7
Other violence	67.4	141.4	39.0	37.4	68.2
All other causes	54.4	96.0	39.0	18.7	102.2

TABLE 31.—*Deaths from Certain Principal Causes, with Proportion per 1,000 Total*

CAUSE OF DEATH.							Central
	San Francisco	Alameda	Berkeley	Oakland	Salinas	San Jose	Santa Cruz
DEATHS.							
ALL CAUSES	6,260	345	448	1,646	63	389	167
Typhoid fever	77	9	3	27	1	9	5
Malarial fever	6	2	-------	1	-------	2	-------
Smallpox	2	-------	-------	-------	-------	-------	-------
Measles	23	-------	4	2	-------	3	3
Scarlet fever	17	-------	-------	1	-------	-------	-------
Whooping-cough	25	1	-------	5	-------	-------	2
Diphtheria and croup	81	3	4	13	-------	6	-------
Influenza	5	-------	-------	-------	-------	2	7
Plague	1	-------	-------	2	-------	-------	-------
Other epidemic diseases	19	-------	2	3	-------	1	-------
Tuberculosis of lungs	718	21	35	158	7	47	15
Tuberculosis of other organs	127	9	14	37	1	11	2
Cancer	409	24	38	117	3	27	12
Other general diseases	244	12	14	55	1	16	3
Meningitis	112	5	4	27	4	12	1
Other diseases of nervous system	351	28	30	117	7	29	23
Diseases of circulatory system	1,054	76	83	288	10	76	32
Pneumonia and broncho-pneumonia	580	33	24	114	6	27	11
Other diseases of respiratory system	193	10	19	53	2	7	3
Diarrhea and enteritis, under 2 years	171	7	7	57	1	10	4
Diarrhea and enteritis, 2 years and over	32	2	3	14	1	3	1
Other diseases of digestive system	357	19	28	97	-------	14	8
Bright's disease and nephritis	376	25	40	125	5	29	5
Childbirth	76	5	7	14	2	3	-------
Diseases of early infancy	234	17	19	66	3	12	6
Suicide	202	11	13	53	1	11	6
Other violence	463	15	21	113	5	22	8
All other causes	305	11	36	87	3	10	10
PROPORTION PER 1,000 TOTAL DEATHS.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	12.3	26.1	6.7	16.4	15.9	23.1	29.9
Malarial fever	1.0	5.8	-------	0.6	-------	5.1	-------
Smallpox	0.3	-------	-------	-------	-------	-------	-------
Measles	3.7	-------	8.9	1.2	-------	7.7	18.0
Scarlet fever	2.7	-------	-------	0.6	-------	-------	-------
Whooping-cough	4.0	2.9	-------	3.0	-------	-------	12.0
Diphtheria and croup	12.9	8.7	8.9	7.9	-------	15.4	-------
Influenza	0.8	-------	-------	-------	-------	5.1	41.9
Plague	0.2	-------	-------	1.2	-------	-------	-------
Other epidemic diseases	3.0	-------	4.5	1.8	-------	2.6	-------
Tuberculosis of lungs	114.7	60.9	78.1	96.0	111.1	120.8	89.8
Tuberculosis of other organs	20.3	26.1	51.3	22.5	15.9	28.3	12.0
Cancer	65.3	69.5	84.8	71.1	47.6	69.4	71.9
Other general diseases	39.0	34.8	31.3	33.4	15.9	41.1	18.0
Meningitis	17.9	14.5	8.9	16.4	63.5	30.9	6.0
Other diseases of nervous system	56.1	81.1	66.9	71.1	111.1	74.6	137.7
Diseases of circulatory system	168.4	220.3	185.3	175.0	158.7	195.4	191.6
Pneumonia and broncho-pneumonia	92.6	95.6	53.6	69.3	95.2	69.4	65.9
Other diseases of respiratory system	30.8	29.0	42.4	32.2	31.7	18.0	18.0
Diarrhea and enteritis, under 2 years	27.3	20.3	15.6	34.6	15.9	25.7	23.9
Diarrhea and enteritis, 2 years and over	5.1	5.8	6.7	8.5	15.9	7.7	6.0
Other diseases of digestive system	57.0	55.1	62.5	58.9	-------	36.0	47.9
Bright's disease and nephritis	60.1	72.4	89.3	75.9	79.4	74.5	29.9
Childbirth	12.1	14.5	15.6	8.5	31.7	7.7	-------
Diseases of early infancy	37.4	49.3	42.4	40.1	47.6	30.9	35.9
Suicide	32.3	31.9	29.0	32.2	15.9	28.3	35.9
Other violence	74.0	43.5	46.9	68.7	79.4	56.6	47.9
All other causes	48.7	31.9	80.4	52.9	47.6	25.7	59.9

Deaths, for Freeholders' Charter Cities arranged Geographically: 1908—Continued.

California.					Southern California							
Watsonville	Fresno	Sacramento	Stockton ...	Vallejo	Los Angeles	Long Beach	Pasadena...	Santa Monica ...	Riverside ..	San Bernardino ..	San Diego .	Santa Barbara ..
103	365	755	481	192	3,752	219	373	110	204	262	701	175
2	18	30	6	1	49	5	-------	2	4	9	5	1
-------	2	3	1	-------	3	-------	-------	-------	-------	-------	1	-------
-------	-------	-------	1	-------	1	-------	-------	-------	-------	-------	-------	-------
1	2	1	-------	2	7	-------	1	-------	-------	-------	4	-------
-------	1	2	2	-------	11	-------	-------	-------	1	-------	-------	-------
-------	4	4	1	-------	16	-------	-------	2	2	5	2	1
1	10	15	5	-------	48	3	1	-------	4	-------	6	3
-------	2	2	-------	1	16	1	1	-------	1	-------	9	1
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
1	5	7	1	2	17	1	-------	-------	1	1	2	2
16	48	74	70	18	622	15	104	7	38	65	106	20
2	13	15	10	1	78	3	9	2	5	4	19	1
7	17	45	9	11	245	20	28	5	5	13	47	16
1	10	33	13	5	138	3	12	2	6	6	20	3
4	14	21	6	5	67	4	3	4	4	7	6	6
9	15	45	82	26	295	23	22	9	16	9	75	14
14	24	83	90	25	477	38	57	20	20	15	79	34
3	26	65	28	14	259	7	19	13	16	31	49	8
1	9	21	14	2	100	7	9	1	2	5	25	2
3	25	31	9	5	101	4	6	3	4	7	19	7
2	4	7	7	1	30	7	4	-------	2	2	5	4
3	32	58	13	9	200	18	22	10	9	12	42	11
6	6	38	25	19	237	29	31	6	13	16	53	9
1	10	14	3	2	39	1	-------	1	1	7	6	5
3	18	31	16	8	151	1	10	1	10	12	17	11
3	8	22	9	6	87	2	5	1	2	5	12	5
11	26	46	30	20	220	12	19	13	24	17	46	6
9	16	42	30	9	238	15	10	8	14	14	46	5
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
19.4	49.3	39.7	12.5	5.2	13.1	22.8	-------	18.2	19.6	34.4	7.1	5.7
-------	5.5	4.0	2.1	-------	0.8	-------	-------	-------	-------	-------	1.4	-------
-------	-------	-------	2.1	-------	0.3	-------	-------	-------	-------	-------	-------	-------
9.7	5.5	1.3	-------	10.4	1.9	-------	2.7	-------	-------	-------	5.7	-------
-------	2.7	2.7	4.1	-------	2.9	-------	-------	-------	4.9	-------	-------	-------
-------	11.0	5.3	2.1	-------	4.3	-------	-------	18.2	9.8	19.1	2.9	5.7
9.7	27.4	19.9	10.4	-------	12.8	13.7	2.7	-------	19.6	-------	8.6	17.1
-------	5.5	2.6	-------	5.2	4.3	4.6	2.7	-------	4.9	-------	12.8	5.7
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
9.7	13.7	9.3	2.1	10.4	4.5	4.6	-------	-------	4.9	3.8	2.9	11.4
155.4	131.5	98.0	145.5	93.8	165.8	68.5	278.8	63.6	186.3	248.1	151.2	114.3
19.4	35.6	19.9	20.8	5.2	20.8	13.7	24.1	18.2	24.5	15.3	27.1	5.7
68.0	46.6	59.6	18.7	57.3	65.3	91.3	75.1	45.4	24.5	49.6	67.0	91.4
9.7	27.4	43.7	27.0	26.0	36.8	13.7	32.2	18.2	29.4	22.9	28.5	17.1
38.9	38.4	27.8	12.5	26.0	17.9	18.2	8.1	36.4	19.6	26.7	8.6	34.3
87.4	41.1	59.6	170.5	135.4	78.6	105.0	59.0	81.8	78.5	34.3	107.0	80.0
135.9	65.8	109.9	187.1	130.2	127.1	173.5	152.8	181.8	98.1	57.3	112.7	194.3
29.1	71.2	86.1	58.2	72.9	69.0	32.0	50.9	118.2	78.5	118.3	69.9	45.7
9.7	24.6	27.8	29.1	10.4	26.6	32.0	24.1	9.1	9.8	19.1	35.7	11.4
29.1	68.5	41.1	18.7	26.0	26.9	18.2	16.1	27.3	19.6	26.7	27.1	40.0
19.4	11.0	9.3	14.5	5.2	8.0	32.0	10.7	-------	9.8	7.6	7.1	22.9
29.1	87.7	76.8	27.0	46.9	53.3	82.2	59.0	90.9	44.1	45.8	59.9	62.9
58.3	16.4	50.3	52.0	99.0	63.2	132.4	83.1	54.5	63.7	61.1	75.6	51.4
9.7	27.4	18.6	6.2	10.4	10.4	4.6	-------	9.1	4.9	26.7	8.6	28.6
29.1	49.3	41.1	33.3	41.7	40.2	4.6	26.8	9.1	49.0	45.8	24.3	62.9
29.1	21.9	29.1	18.7	31.3	23.2	9.1	13.4	9.1	9.8	19.1	17.1	28.6
106.8	71.2	60.9	62.4	104.2	58.6	54.8	50.9	118.2	117.6	64.9	65.6	34.3
87.4	43.8	55.6	62.4	46.9	63.4	68.5	26.8	72.7	68.6	53.4	65.6	28.6

TABLE 32.—*Deaths from Certain Principal Causes, with Proportion*

CAUSE OF DEATH.	The State	Northern					
		Coast Counties.					
		Del Norte	Humboldt	Lake	Mendocino	Napa	Sonoma
DEATHS.							
ALL CAUSES	30,985	31	334	70	317	518	611
Typhoid fever	461	-------	2	4	3	3	9
Malarial fever	112	-------	-------	-------	-------	1	2
Smallpox	6	-------	-------	-------	-------	-------	-------
Measles	119	-------	1	-------	3	1	10
Scarlet fever	69	-------	-------	-------	1	-------	1
Whooping-cough	217	-------	2	4	-------	1	5
Diphtheria and croup	248	-------	10	-------	-------	1	2
Influenza	82	-------	-------	-------	-------	1	1
Plague	1	-------	-------	-------	-------	-------	-------
Other epidemic diseases	108	-------	2	-------	2	2	1
Tuberculosis of lungs	4,061	3	31	9	31	47	69
Tuberculosis of other organs	612	-------	1	-------	4	3	11
Cancer	1,945	4	26	3	12	23	31
Other general diseases	1,177	2	13	3	10	12	24
Meningitis	398	-------	5	-------	4	6	6
Other diseases of nervous system	2,479	1	28	6	53	169	84
Diseases of circulatory system	4,966	9	47	8	45	94	97
Pneumonia and broncho-pneumonia	2,081	-------	5	3	28	19	44
Other diseases of respiratory system	842	1	20	-------	4	8	26
Diarrhea and enteritis, under 2 years	966	-------	7	-------	7	1	17
Diarrhea and enteritis, 2 years and over	270	-------	-------	1	8	3	5
Other diseases of digestive system	1,596	2	21	6	21	24	33
Bright's disease and nephritis	1,858	2	11	4	21	15	24
Childbirth	300	-------	5	1	3	1	8
Diseases of early infancy	998	1	16	3	12	3	14
Suicide	702	-------	5	-------	7	8	12
Other violence	2,563	5	52	9	29	20	40
All other causes	1,748	1	24	6	9	52	35
PROPORTION PER 1,000 TOTAL DEATHS.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	14.9	-------	6.0	57.1	9.5	5.8	14.7
Malarial fever	3.6	-------	-------	-------	-------	1.9	3.3
Smallpox	0.2	-------	-------	-------	-------	-------	-------
Measles	3.8	-------	3.0	-------	9.5	1.9	16.4
Scarlet fever	2.2	-------	-------	-------	3.2	-------	1.6
Whooping-cough	7.0	-------	6.0	57.1	-------	1.9	8.2
Diphtheria and croup	8.0	-------	29.9	-------	-------	1.9	3.3
Influenza	2.6	-------	-------	-------	-------	1.9	1.6
Plague	*	-------	-------	-------	-------	-------	-------
Other epidemic diseases	3.5	-------	6.0	-------	6.3	3.9	1.6
Tuberculosis of lungs	131.0	96.8	92.8	128.6	97.8	90.7	112.9
Tuberculosis of other organs	19.8	-------	3.0	-------	12.6	5.8	18.0
Cancer	62.8	129.0	77.8	42.9	37.9	44.4	50.7
Other general diseases	38.0	64.5	38.9	42.9	31.5	23.2	39.3
Meningitis	12.8	-------	15.0	-------	12.6	11.6	9.8
Other diseases of nervous system	80.0	32.3	83.8	85.7	167.2	326.3	137.5
Diseases of circulatory system	160.3	290.3	140.7	114.3	141.9	181.5	158.8
Pneumonia and broncho-pneumonia	67.2	-------	15.0	42.9	88.3	36.7	72.0
Other diseases of respiratory system	27.2	32.3	59.9	-------	12.6	15.5	42.6
Diarrhea and enteritis, under 2 years	31.2	-------	20.9	-------	22.1	1.9	27.8
Diarrhea and enteritis, 2 years and over	8.7	-------	-------	14.3	25.2	5.8	8.2
Other diseases of digestive system	51.5	64.5	62.9	85.7	66.2	46.3	54.0
Bright's disease and nephritis	60.0	64.5	32.9	57.1	66.2	29.0	39.3
Childbirth	9.7	-------	15.0	14.3	9.5	1.9	13.1
Diseases of early infancy	32.2	32.3	47.9	42.8	37.9	5.8	22.9
Suicide	22.7	-------	15.0	-------	22.1	15.4	19.6
Other violence	82.7	161.3	155.7	128.6	91.5	38.6	65.5
All other causes	56.4	32.2	71.9	85.7	28.4	100.4	57.3

*Less than one tenth of 1 per thousand.

per 1,000 Total Deaths, for Counties arranged Geographically: 1909.

California.

	Interior Counties.											
Trinity	Butte	Colusa	Glenn	Lassen	Modoc	Nevada	Placer	Plumas	Shasta	Sierra	Siskiyou	Sutter
32	435	80	28	43	33	229	185	79	310	30	192	52
3	13	4	1	3	2	1	1	4	7	-------	4	-------
1	17	-------	-------	-------	-------	-------	5	-------	6	-------	-------	1
-------	-------	-------	-------	-------	-------	-------	-------	-------	1	-------	-------	-------
-------	-------	1	-------	-------	1	-------	-------	1	1	1	-------	-------
-------	1	-------	-------	-------	-------	1	-------	-------	-------	-------	-------	-------
-------	1	-------	-------	-------	-------	-------	-------	-------	-------	1	-------	-------
-------	7	1	-------	-------	2	2	2	-------	5	-------	3	2
-------	4	1	1	-------	1	3	-------	-------	2	2	1	1
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
-------	-------	-------	-------	-------	-------	1	1	-------	4	-------	1	-------
3	40	4	2	-------	2	32	22	7	38	-------	15	5
1	5	2	-------	2	-------	-------	2	-------	8	-------	2	-------
1	24	3	1	1	1	11	11	2	16	1	3	2
1	18	6	1	1	-------	6	6	7	6	1	10	2
1	7	-------	-------	1	-------	-------	-------	-------	-------	-------	-------	1
-------	25	7	1	3	4	23	15	5	15	2	14	5
3	46	12	11	3	3	37	28	12	41	9	36	8
-------	29	4	-------	11	7	25	12	6	14	3	19	3
1	11	2	-------	-------	-------	6	1	-------	16	-------	4	-------
-------	8	1	-------	-------	-------	3	4	1	19	1	9	1
-------	4	1	-------	-------	-------	1	2	-------	2	1	1	1
3	27	7	2	5	3	7	11	4	10	1	6	3
6	21	3	2	3	1	14	11	5	12	-------	8	3
1	6	-------	-------	-------	-------	1	2	-------	4	-------	5	1
-------	12	3	3	2	1	6	5	-------	5	-------	7	1
-------	5	3	1	-------	1	3	5	5	5	-------	8	1
5	64	10	2	3	1	28	29	17	59	3	17	7
2	40	5	-------	5	3	18	10	3	14	4	19	4
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
93.8	29.9	50.0	35.7	69.8	60.6	4.4	5.4	50.6	22.6	-------	20.8	-------
31.3	39.1	-------	-------	-------	-------	-------	27.0	-------	19.4	-------	-------	19.2
-------	-------	-------	-------	-------	-------	-------	-------	-------	3.2	-------	-------	-------
-------	-------	12.5	-------	-------	30.3	-------	-------	12.7	3.2	33.4	-------	-------
-------	2.3	-------	-------	-------	-------	4.4	-------	-------	-------	-------	-------	-------
-------	2.3	-------	-------	-------	-------	-------	-------	-------	-------	33.4	-------	-------
-------	16.1	12.5	-------	-------	60.6	8.7	10.8	-------	16.1	-------	15.6	38.5
-------	9.2	12.5	35.7	-------	30.3	13.1	-------	-------	6.5	66.7	5.2	19.2
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
-------	-------	-------	-------	-------	-------	4.4	5.4	-------	12.9	-------	5.2	-------
93.8	91.9	50.0	71.5	-------	60.6	139.7	118.9	88.6	122.6	-------	78.1	96.2
31.3	11.5	25.0	-------	46.5	-------	-------	10.8	-------	25.8	-------	10.4	-------
31.3	55.2	37.5	35.7	23.2	30.3	48.0	59.5	25.3	51.6	33.3	15.6	38.5
31.3	41.4	75.0	35.7	23.2	-------	26.2	32.5	88.6	19.4	33.3	52.1	38.5
31.2	16.1	-------	-------	23.2	-------	-------	-------	-------	-------	-------	-------	19.2
-------	57.5	87.5	35.7	69.8	121.2	100.4	81.1	63.3	48.4	66.7	72.9	96.2
93.7	105.7	150.0	392.9	69.8	90.9	161.6	151.3	151.9	132.2	300.0	187.5	153.9
-------	66.6	50.0	-------	255.8	212.2	109.2	64.9	75.9	45.2	100.0	99.0	57.7
31.2	25.3	25.0	-------	-------	-------	26.2	5.4	-------	51.6	-------	20.8	-------
-------	18.4	12.5	-------	-------	-------	13.1	21.6	12.7	61.3	33.3	46.9	19.2
-------	9.2	12.5	-------	-------	-------	4.4	10.8	-------	6.4	33.3	5.2	19.2
93.7	62.0	87.5	71.5	116.3	90.9	30.6	59.5	50.6	32.3	33.3	31.3	57.7
187.5	48.3	37.5	71.4	69.8	30.3	61.1	59.5	63.3	38.7	-------	41.7	57.7
31.2	13.8	-------	-------	-------	-------	4.4	10.8	-------	12.9	-------	26.0	19.2
-------	27.6	37.5	107.1	46.5	30.3	26.2	27.0	-------	16.1	-------	36.5	19.2
-------	11.5	37.5	35.7	-------	30.3	13.1	27.0	63.3	16.1	-------	41.7	19.2
156.2	147.1	125.0	71.4	69.8	30.3	122.2	156.7	215.2	190.3	100.0	88.5	134.6
62.5	92.0	62.5	-------	116.3	90.9	78.6	54.1	38.0	45.2	133.3	99.0	76.9

TABLE 32.—*Deaths from Certain Principal Causes, with Proportion per*

CAUSE OF DEATH.	Northern California—Cont.		Central				
	Interior Counties —Cont.		San Francisco	Other Bay Counties.			
	Tehama	Yuba		Alameda	Contra Costa	Marin	San Mateo
DEATHS.							
ALL CAUSES	188	149	6,150	3,210	334	308	256
Typhoid fever	6	3	60	29	7	2	4
Malarial fever	4	4	7	2	1	-------	1
Smallpox	-------	-------	-------	-------	-------	-------	-------
Measles	-------	-------	29	8	7	-------	-------
Scarlet fever	-------	-------	18	4	2	-------	1
Whooping-cough	-------	-------	51	41	10	4	1
Diphtheria and croup	4	4	51	29	2	2	3
Influenza	1	2	5	4	1	-------	-------
Plague	-------	-------	-------	1	-------	-------	-------
Other epidemic diseases	1	-------	28	9	-------	-------	-------
Tuberculosis of lungs	27	22	675	359	41	33	13
Tuberculosis of other organs	1	1	147	71	-------	7	9
Cancer	8	7	490	239	12	8	16
Other general diseases	9	3	245	114	9	14	11
Meningitis	2	-------	68	49	3	7	3
Other diseases of nervous system	21	8	308	244	23	19	26
Diseases of circulatory system	27	28	1,166	624	39	59	37
Pneumonia and broncho-pneumonia	13	10	459	228	28	20	29
Other diseases of respiratory system	1	2	205	83	10	11	5
Diarrhea and enteritis, under 2 years	3	5	163	115	17	8	11
Diarrhea and enteritis, 2 years and over	1	-------	50	18	1	2	2
Other diseases of digestive system	11	10	318	158	12	21	9
Bright's disease and nephritis	7	3	390	227	11	12	18
Childbirth	2	-------	72	35	1	6	2
Diseases of early infancy	1	1	221	102	13	12	5
Suicide	5	1	219	70	6	9	9
Other violence	20	19	436	206	65	30	25
All other causes	13	16	269	141	13	22	16
PROPORTION PER 1,000 TOTAL DEATHS.							
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	31.9	20.1	9.8	9.0	21.0	6.5	15.6
Malarial fever	21.3	26.9	1.1	0.6	3.0	-------	-------
Smallpox	-------	-------	-------	-------	-------	-------	-------
Measles	-------	-------	4.7	2.5	21.0	-------	-------
Scarlet fever	-------	-------	2.9	1.3	6.0	-------	3.9
Whooping-cough	-------	-------	8.3	12.8	29.9	13.0	3.9
Diphtheria and croup	21.3	26.9	8.3	9.0	6.0	6.5	11.7
Influenza	5.3	13.4	0.8	1.3	3.0	-------	-------
Plague	-------	-------	-------	0.3	-------	-------	-------
Other epidemic diseases	5.3	-------	4.6	2.8	-------	-------	-------
Tuberculosis of lungs	143.6	147.7	109.8	111.8	122.7	107.1	50.8
Tuberculosis of other organs	5.3	6.7	23.9	22.1	-------	22.7	35.2
Cancer	42.6	47.0	79.7	74.5	35.9	26.0	62.5
Other general diseases	47.9	20.1	39.8	35.5	27.0	45.4	43.0
Meningitis	10.6	-------	11.1	15.3	9.0	22.7	11.7
Other diseases of nervous system	111.7	53.7	50.1	76.0	68.9	61.7	101.6
Diseases of circulatory system	143.6	187.9	189.6	194.4	116.8	191.6	144.5
Pneumonia and broncho-pneumonia	69.2	67.1	74.6	71.0	83.8	64.9	113.3
Other diseases of respiratory system	5.3	13.4	33.3	25.9	29.9	35.7	19.5
Diarrhea and enteritis, under 2 years	16.0	33.6	26.5	35.8	50.9	26.0	43.0
Diarrhea and enteritis, 2 years and over	5.3	-------	8.1	5.6	3.0	6.5	7.8
Other diseases of digestive system	58.5	67.1	51.7	49.2	35.9	68.2	35.2
Bright's disease and nephritis	37.2	20.1	63.4	70.7	32.9	39.0	70.3
Childbirth	10.6	-------	11.7	10.9	3.0	19.5	7.8
Diseases of early infancy	5.3	6.7	35.9	31.8	38.9	39.0	19.5
Suicide	26.6	6.7	35.6	21.8	18.0	29.2	35.1
Other violence	106.4	127.5	70.9	64.2	194.6	97.4	97.7
All other causes	69.2	107.4	43.8	43.9	38.9	71.4	62.5

1,000 Total Deaths, for Counties arranged Geographically: 1909—Continued.

California.

Coast Counties.					Interior Counties.							
Monterey	San Benito	San Luis Obispo	Santa Clara	Santa Cruz	Alpine	Amador	Calaveras	El Dorado	Fresno	Inyo	Kern	Kings
316	77	199	1,190	385	-------	116	128	125	806	36	383	161
6	1	5	8	6	-------	2	1	-------	24	1	14	5
1	1	1	1	2	-------	4	1	-------	7	-------	4	1
-------	1	1	-------	-------	-------	-------	-------	-------	-------	-------	1	-------
-------	-------	-------	5	1	-------	-------	-------	-------	-------	-------	3	2
-------	-------	-------	1	3	-------	-------	-------	-------	3	-------	2	2
3	-------	4	3	3	-------	-------	-------	-------	1	-------	1	-------
-------	-------	1	9	3	-------	1	-------	-------	16	-------	3	3
1	-------	-------	8	2	-------	2	-------	3	5	-------	-------	-------
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
3	-------	-------	1	2	-------	-------	-------	-------	4	-------	2	1
24	12	33	148	37	-------	18	11	14	87	2	63	18
11	2	2	32	8	-------	2	2	2	17	-------	4	2
24	5	5	82	27	-------	3	11	10	42	4	10	9
23	2	7	30	16	-------	6	3	6	28	-------	19	4
3	-------	5	22	7	-------	-------	1	-------	19	-------	3	3
21	6	9	88	36	-------	11	13	4	37	3	16	11
54	18	41	225	75	-------	16	16	28	102	7	31	22
26	2	13	73	21	-------	4	8	12	62	1	20	9
5	5	6	41	4	-------	3	5	5	27	1	7	3
5	1	6	41	10	-------	3	3	-------	50	-------	16	12
3	-------	2	8	3	-------	-------	-------	2	9	-------	2	1
16	5	11	53	19	-------	9	5	7	47	6	26	8
20	7	10	102	20	-------	11	5	9	36	3	19	3
1	-------	3	10	4	-------	2	-------	-------	12	-------	4	2
4	1	3	40	13	-------	1	3	4	40	-------	10	8
7	-------	4	26	10	-------	2	2	2	15	-------	7	3
36	6	14	77	28	-------	9	24	9	69	8	76	15
19	2	13	56	25	-------	7	14	8	47	-------	20	14
1000.0	1000.0	1000.0	1000.0	1000.0	-------	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
19.0	13.0	25.1	6.7	15.6	-------	17.3	7.8	-------	29.8	27.8	36.6	31.1
3.2	13.0	5.0	0.8	5.2	-------	34.5	7.8	-------	8.7	-------	10.5	6.2
-------	13.0	5.0	-------	-------	-------	-------	-------	-------	-------	-------	2.6	-------
-------	-------	-------	4.2	2.6	-------	-------	-------	-------	-------	-------	7.8	12.4
-------	-------	-------	0.8	7.8	-------	-------	-------	-------	3.7	-------	5.2	12.4
9.5	-------	20.1	2.5	7.8	-------	-------	-------	-------	1.2	-------	2.6	-------
-------	-------	5.0	7.6	7.8	-------	8.6	-------	-------	19.9	-------	7.8	18.6
3.2	-------	-------	6.7	5.2	-------	17.2	-------	24.0	6.2	-------	-------	-------
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
9.5	-------	-------	0.8	5.2	-------	-------	-------	-------	5.0	-------	5.2	6.2
75.9	155.8	165.8	124.4	96.1	-------	155.2	86.0	112.0	107.9	55.6	164.5	111.8
34.8	26.0	10.1	26.9	20.8	-------	17.2	15.6	16.0	21.1	-------	10.5	12.4
75.9	64.9	25.1	68.9	70.1	-------	25.9	85.9	80.0	52.1	111.1	26.1	55.9
72.8	26.0	35.2	25.2	41.6	-------	51.7	23.4	48.0	34.8	-------	49.6	24.9
9.5	-------	25.1	18.5	18.2	-------	-------	7.8	-------	23.6	-------	7.8	18.6
66.5	77.9	45.2	74.0	93.5	-------	94.8	101.6	32.0	45.9	83.3	41.8	68.3
170.9	233.8	206.0	189.1	194.8	-------	137.9	125.0	224.0	126.5	194.4	80.9	136.7
82.3	26.0	65.3	61.3	54.5	-------	34.5	62.5	96.0	76.9	27.8	52.2	55.9
15.8	64.9	30.2	34.5	10.4	-------	25.9	39.1	40.0	33.5	27.8	18.3	18.6
15.8	13.0	30.2	34.5	26.0	-------	25.9	23.4	-------	62.0	-------	41.8	74.6
9.5	-------	10.0	6.7	7.8	-------	-------	-------	16.0	11.2	-------	5.2	6.2
50.6	64.9	55.3	44.5	49.3	-------	77.6	39.1	56.0	58.3	166.7	67.9	49.7
63.3	90.9	50.3	85.7	51.9	-------	94.8	39.1	72.0	44.7	83.3	49.6	18.6
3.2	-------	15.1	8.4	10.4	-------	17.2	-------	-------	14.9	-------	10.5	12.4
12.7	13.0	15.1	33.6	33.8	-------	8.6	23.4	32.0	49.6	-------	26.1	49.7
22.1	-------	20.1	21.9	26.0	-------	17.2	15.6	16.0	18.6	-------	18.3	18.6
113.9	77.9	70.4	64.7	72.7	-------	77.6	187.5	72.0	85.6	222.2	198.4	93.2
60.1	26.0	65.3	47.1	64.9	-------	60.4	109.4	64.0	58.3	-------	52.2	87.0

TABLE 32.—*Deaths from Certain Principal Causes, with Proportion per*

CAUSE OF DEATH.	Central Califor					
	Interior Counties					
	Madera	Mariposa	Merced	Mono	Sacramento	San Joaquin
DEATHS.						
ALL CAUSES	73	48	116	7	1,100	911
Typhoid fever	2	2	1	------	34	17
Malarial fever	------	------	1	------	12	11
Smallpox	------	------	------	------	------	------
Measles	------	------	------	------	4	3
Scarlet fever	------	------	1	------	3	------
Whooping-cough	------	------	1	------	7	2
Diphtheria and croup	------	------	------	------	3	6
Influenza	------	------	------	------	1	1
Plague	------	------	------	------	------	------
Other epidemic diseases	------	------	------	------	7	3
Tuberculosis of lungs	7	3	16	------	13.3	12.3
Tuberculosis of other organs	1	------	------	------	21	11
Cancer	5	2	7	------	60	58
Other general diseases	4	2	5	------	50	31
Meningitis	2	1	1	------	21	14
Other diseases of nervous system	5	5	8	------	57	127
Diseases of circulatory system	10	5	10	1	131	146
Pneumonia and broncho-pneumonia	8	5	13	------	79	59
Other diseases of respiratory system	1	------	4	1	37	22
Diarrhea and enteritis, under 2 years	2	1	9	------	41	19
Diarrhea and enteritis, 2 years and over	1	------	2	------	11	20
Other diseases of digestive system	5	------	4	2	59	45
Bright's disease and nephritis	6	1	3	1	69	50
Childbirth	------	------	3	------	6	10
Diseases of early infancy	4	------	5	------	33	11
Suicide	------	------	3	------	32	12
Other violence	6	7	12	2	90	53
All other causes	4	14	7	------	99	57
PROPORTION PER 1,000 TOTAL DEATHS.						
ALL CAUSES	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Typhoid fever	27.4	41.7	8.6	------	30.9	18.6
Malarial fever	------	------	8.6	------	10.9	12.1
Smallpox	------	------	------	------	------	------
Measles	------	------	------	------	3.6	3.3
Scarlet fever	------	------	8.6	------	2.7	------
Whooping-cough	------	------	8.6	------	6.4	2.2
Diphtheria and croup	------	------	------	------	2.7	6.6
Influenza	------	------	------	------	0.9	1.1
Plague	------	------	------	------	------	------
Other epidemic diseases	------	------	------	------	6.4	3.3
Tuberculosis of lungs	95.9	62.5	137.9	------	120.9	135.0
Tuberculosis of other organs	13.7	------	------	------	19.1	12.1
Cancer	68.5	41.7	60.4	------	54.6	63.7
Other general diseases	54.8	41.7	43.1	------	45.5	34.0
Meningitis	27.4	20.8	8.6	------	19.1	15.4
Other diseases of nervous system	68.5	104.2	69.0	------	51.8	139.4
Diseases of circulatory system	137.0	104.2	86.2	142.9	119.1	160.2
Pneumonia and broncho-pneumonia	109.5	104.1	112.1	------	71.8	64.8
Other diseases of respiratory system	13.7	------	34.5	142.9	33.6	24.1
Diarrhea and enteritis, under 2 years	27.4	20.8	77.6	------	37.3	20.8
Diarrhea and enteritis, 2 years and over	13.7	------	17.2	------	10.0	21.9
Other diseases of digestive system	68.5	------	34.5	285.7	53.6	49.4
Bright's disease and nephritis	82.2	20.8	25.9	142.8	62.7	54.9
Childbirth	------	------	25.9	------	5.5	11.0
Diseases of early infancy	54.8	------	43.1	------	30.0	12.1
Suicide	------	------	25.9	------	29.1	13.2
Other violence	82.2	145.8	103.4	285.7	81.8	58.2
All other causes	54.8	291.7	60.3	------	90.0	62.6

1,000 Total Deaths, for Counties arranged Geographically: 1909—Continued.

nia—Continued.					Southern California.							
—Continued.					Los Angeles....	Other Counties.						
Solano....	Stanislaus.	Tulare....	Tuolumne.	Yolo......		Imperial...	Orange....	Riverside..	San Bernardino	San Diego..	Santa Barbara....	Ventura...
348	197	291	134	194	6,392	40	355	435	902	751	347	218
4	6	10	7	2	69	1	8	13	25	-------	7	5
-------	1	2	-------	2	5	-------	-------	-------	-------	-------	3	-------
-------	-------	-------	-------	-------	2	-------	-------	-------	-------	-------	-------	-------
-------	-------	2	-------	-------	26	-------	1	4	2	1	-------	1
2	-------	1	-------	-------	15	1	3	1	1	-------	1	-------
1	1	-------	-------	2	38	-------	5	14	5	1	3	1
6	1	3	-------	3	36	-------	3	6	2	5	4	2
-------	1	2	5	2	9	1	2	1	-------	3	2	-------
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
1	-------	1	1	1	18	-------	2	2	2	1	2	2
38	29	31	13	11	1,133	6	37	96	228	100	29	31
3	5	1	-------	3	130	-------	12	16	20	17	6	5
12	6	15	5	10	433	1	17	18	32	43	20	13
20	12	6	6	7	256	1	10	13	30	32	11	3
5	-------	2	1	1	91	-------	10	6	5	6	5	1
44	11	26	11	22	496	3	30	31	121	70	31	17
60	39	34	17	33	911	2	52	48	31	138	56	28
21	12	18	12	8	381	3	21	22	60	59	16	9
5	4	11	3	7	146	-------	12	10	18	18	14	5
10	6	15	4	2	178	2	10	20	48	16	10	24
2	1	4	5	-------	63	2	5	2	4	10	3	1
14	12	15	4	12	347	1	15	21	28	43	16	6
20	8	14	4	13	446	1	23	21	30	39	17	13
3	-------	5	-------	1	50	2	5	2	7	1	7	4
15	7	8	-------	3	228	3	21	13	29	20	16	6
10	5	6	3	2	108	2	7	1	18	14	8	5
36	20	36	25	33	422	8	23	26	71	60	32	29
16	10	23	8	14	355	-------	21	28	35	54	28	7
1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
11.5	30.5	34.4	52.2	10.3	10.8	25.0	22.5	29.9	27.7	-------	20.2	22.9
-------	5.1	6.9	-------	10.3	0.8	-------	-------	-------	-------	-------	8.6	-------
-------	-------	-------	-------	-------	0.3	-------	-------	-------	-------	-------	-------	-------
-------	-------	6.9	-------	-------	4.1	-------	2.8	9.2	2.2	1.3	-------	4.6
5.8	-------	3.4	-------	-------	2.4	25.0	8.4	2.3	1.1	-------	2.9	-------
2.9	5.1	-------	-------	10.3	5.9	-------	14.1	32.2	5.5	1.3	8.6	4.6
17.2	5.1	10.3	-------	15.5	5.6	-------	8.4	13.8	2.2	6.7	11.5	9.2
-------	5.1	6.9	37.3	10.3	1.4	25.0	5.6	2.3	-------	4.0	5.8	-------
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
2.9	-------	3.4	7.5	5.2	2.8	-------	5.6	4.6	2.2	1.3	5.8	9.2
109.2	147.2	106.5	97.0	56.7	177.3	150.0	104.2	220.7	252.8	133.2	83.6	142.2
8.6	25.4	3.4	-------	15.5	20.3	-------	33.8	36.8	22.2	22.6	17.3	22.9
34.5	30.4	51.6	37.3	51.5	67.7	25.0	47.9	41.4	35.5	57.3	57.6	59.6
57.5	60.9	20.6	44.8	36.1	40.1	25.0	28.2	29.9	33.3	42.6	31.7	13.8
14.4	-------	6.9	7.5	5.2	14.2	-------	28.2	13.8	5.5	8.0	14.4	4.6
126.4	55.8	89.4	82.1	113.4	77.6	75.0	84.5	71.2	134.1	93.2	89.3	78.0
172.4	198.0	116.8	126.9	170.1	142.5	50.0	146.5	110.3	89.8	183.8	161.4	128.4
60.4	60.9	61.9	89.6	41.2	59.6	75.0	59.2	50.6	66.5	78.6	46.1	41.3
14.4	20.3	37.8	22.4	36.1	22.8	-------	33.8	23.0	20.0	24.0	40.4	22.9
28.7	30.4	51.6	29.8	10.3	27.9	50.0	28.2	46.0	53.2	21.3	28.8	110.1
5.7	5.1	13.7	37.3	-------	9.9	50.0	14.1	4.6	4.4	13.3	8.6	4.6
40.2	60.9	51.5	29.8	61.8	54.3	25.0	42.2	48.3	31.0	57.3	46.1	27.5
57.5	40.6	48.1	29.8	67.0	69.8	25.0	64.8	48.3	33.3	51.9	49.0	59.6
8.6	-------	17.2	-------	5.2	7.8	50.0	14.1	4.6	7.8	1.3	20.2	18.4
43.1	35.5	27.5	-------	15.4	35.7	75.0	59.2	29.9	32.2	26.6	46.1	27.5
28.7	25.4	20.6	22.4	10.3	16.9	50.0	19.7	2.3	20.0	18.6	23.1	23.0
103.4	101.5	123.7	186.6	170.1	66.0	200.0	64.8	59.7	78.7	79.9	92.2	133.0
46.0	50.8	79.0	59.7	72.2	55.5	-------	59.2	64.3	38.8	71.9	80.7	32.1

TABLE 33.—*Deaths Reported for Registration Districts (Cities, Towns, and Rural Parts of Counties): 1909 and 1908.*

[Cities or incorporated towns not reporting deaths omitted from table.]

Registration District.	Deaths:	
	1909.	1908.
CALIFORNIA	30,985	31,287
Alameda County	3,210	3,305
Rural	710	717
Alameda	309	345
Berkeley	405	448
Emeryville	5	17
Hayward	29	18
Livermore	37	41
Oakland	1,642	1,646
Pleasanton	20	26
San Leandro	53	47
Alpine County	-------	4
Amador County	116	102
Rural	57	66
Jackson	59	36
Butte County	435	473
Rural	260	307
Biggs	9	8
Chico	82	84
Gridley	21	17
Oroville	63	57
Calaveras County	128	135
Colusa County	80	83
Rural	61	57
Colusa	19	26
Contra Costa County	334	399
Rural	141	185
Antioch	19	29
Black Diamond	17	13
Concord	8	9
Martinez	57	77
Richmond	92	86
Del Norte County	31	38
El Dorado County	125	132
Fresno County	806	970
Rural	489	586
Fresno	288	365
Kingsburg	4	-------
Selma	25	19
Glenn County	28	50
Rural	27	43
Willows	1	7
Humboldt County	334	362
Rural	150	154
Eureka	180	198
Ferndale	4	10
Imperial County	40	75
Rural	32	57
Imperial	8	18
Inyo County	36	43
Rural	27	35
Bishop	9	8
Kern County	383	367
Rural	144	122
Bakersfield	198	193
Kern	41	52
Kings County	161	179
Rural	76	84
Hanford	76	76
Lemoore	9	19
Lake County	70	75
Rural	65	68
Lakeport	5	7
Lassen County	43	28
Los Angeles County	6,392	6,011
Rural	939	843
Alhambra	38	42
Arcadia	1	-------
Azusa	18	19
Claremont	8	5
Compton	11	13
Covina	9	24
Glendale	35	33
Hermosa Beach	6	10
Hollywood	40	25
Huntington Park	11	-------
Inglewood	2	-------
Long Beach	235	219
Lordsburg	6	-------
Los Angeles	4,013	3,752
Monrovia	105	137
Ocean Park	27	30
Pasadena	410	373
Pomona	129	127
Redondo Beach	23	27
San Pedro	37	59
Santa Monica	103	110
Sawtelle	47	40
Sierra Madre	37	27
South Pasadena	38	27
Watts	15	7
Whittier	45	53
Wilmington	4	9
Madera County	73	60
Marin County	308	276
Rural	169	158
Belvedere	-------	2
Larkspur	7	-------
Mill Valley	25	18
San Rafael	83	74
Sausalito	24	24
Mariposa County	48	42
Mendocino County	317	283
Rural	220	209
Fort Bragg	56	36
Point Arena	7	5
Potter Valley	5	4
Ukiah	29	29
Merced County	116	135
Rural	77	78
Los Banos	10	21
Merced	29	36
Modoc County	33	50
Rural	23	33
Alturas	10	17
Mono County	7	6
Monterey County	316	293
Rural	106	113
Monterey	82	76
Pacific Grove	60	41
Salinas	68	63
Napa County	518	489
Rural	422	397
Calistoga	5	1
Napa	70	77
St. Helena	21	14
Nevada County	229	256
Rural	134	125
Grass Valley	58	88
Nevada City	37	43
Orange County	355	327
Rural	128	110
Anaheim	46	44
Fullerton	33	36
Orange	41	29
Santa Ana	107	108
Placer County	185	172
Rural	102	91
Auburn	44	47
Lincoln	17	2
Rocklin	15	32
Roseville	7	-------
Plumas County	79	105
Riverside County	435	367
Rural	140	116
Corona	43	36
Elsinore	6	5
Riverside	238	204
San Jacinto	8	6

TABLE 33.—*Deaths Reported for Registration Districts (Cities, Towns, and Rural Parts of Counties): 1909 and 1908—Continued.*

[Cities or incorporated towns not reporting deaths omitted from table.]

Registration District.	Deaths:	
	1909.	1908.
Sacramento County	1,100	1,165
Rural	402	410
Sacramento	698	755
San Benito County	77	94
Rural	46	53
Hollister	24	33
San Juan	7	8
San Bernardino County	902	839
Rural	332	265
Colton	85	59
Ontario	69	52
Redlands	142	180
San Bernardino	250	262
Upland	24	21
San Diego County	751	846
Rural	91	73
Coronado	15	15
Escondido	10	14
National City	27	35
Oceanside	7	8
San Diego	601	701
San Francisco (city and county)	6,150	6,260
San Joaquin County	911	941
Rural	415	419
Lodi	41	41
Stockton	455	481
San Luis Obispo County	199	183
Rural	75	57
Paso de Robles	30	37
San Luis Obispo	94	89
San Mateo County	256	285
Rural	145	195
Burlingame	11	5
Redwood City	30	31
San Mateo	53	53
South San Francisco	17	1
Santa Barbara County	347	322
Rural	133	128
Lompoc	11	19
Santa Barbara	203	175
Santa Clara County	1,190	1,213
Rural	576	612
Alviso	--------	1
Gilroy	39	52
Los Gatos	49	31
Mayfield	26	22
Mountain View	14	9
Palo Alto	48	47
San Jose	386	389
Santa Clara	52	50
Santa Cruz County	385	348
Rural	81	69
Boulder Creek	11	9
Santa Cruz	190	167
Watsonville	103	103
Shasta County	310	334
Rural	256	244
Redding	54	90
Sierra County	30	56
Rural	30	49
Loyalton	--------	7
Siskiyou County	192	196
Rural	127	146
Dorris	1	-------
Etna	9	-------
Fort Jones	5	2
Montague	2	-------
Yreka	48	48
Solano County	348	367
Rural	93	72
Benicia	35	30
Dixon	10	19
Fairfield	9	6
Rio Vista	5	10
Suisun	6	17
Vacaville	18	21
Vallejo	172	192
Sonoma County	611	649
Rural	339	364
Cloverdale	16	6
Healdsburg	42	47
Petaluma	83	82
Santa Rosa	105	107
Sebastopol	20	13
Sonoma	6	30
Stanislaus County	197	215
Rural	106	124
Modesto	57	60
Oakdale	25	20
Turlock	9	11
Sutter County	52	74
Rural	45	58
Yuba City	7	16
Tehama County	188	158
Rural	100	85
Corning	11	13
Red Bluff	76	60
Tehama	1	-------
Trinity County	32	47
Tulare County	291	318
Rural	169	164
Porterville	27	60
Tulare	37	28
Visalia	58	66
Tuolumne County	134	138
Ventura County	218	207
Rural	27	29
Oxnard	78	56
San Buenaventura	79	77
Santa Paula	34	45
Yolo County	194	170
Rural	133	112
Winters	9	16
Woodland	52	42
Yuba County	149	170
Rural	36	34
Marysville	106	131
Wheatland	7	5

STATISTICS OF MARRIAGES: 1909 AND 1908.

SUMMARY.

Marriage Totals and Increase.—The marriages registered in California numbered 21,317 in 1906, 23,005 in 1907, 21,739 in 1908, and 22,917 in 1909, the small total for 1908 being due to leap year shyness and general business depression.

Following the increase of 1,688, or 7.9 per cent, for 1906 to 1907 came a decrease of 1,266, or 5.5 per cent, for 1907 to 1908 and then an increase of 1,178, or 5.4 per cent, for 1908 to 1909.

The marriage total for Northern and Central California together was 15,225 in 1909 against 14,919 in 1908, a gain of 366, or 2.3 per cent. The total for the counties south of Tehachapi was 7,662 in 1909 as compared with 6,820 in 1908, an increase of 824, or 12.3 per cent.

For 1908 to 1909 thirty-one counties showed increases in marriages, one no change, and twenty-six showed decreases.

The increases were above the State average, 5.4 per cent, in the following twenty-six counties: Alpine, Sierra, Plumas, Glenn, Orange, Kings, Shasta, Inyo, Mono, Imperial, Kern, Tulare, Marin, Sutter, Yuba, San Bernardino, Mendocino, Los Angeles, Tehama, Modoc, Placer, Tuolumne, San Mateo, San Diego, Amador, and Santa Cruz.

Marriage-Rates.—For an estimated midyear population of 2,306,001 in 1909 and 2,215,615 in 1908, the California marriage-rates are respectively 9.9 and 9.8.

The marriage-rates are higher for Southern California than for Northern and Central California. The rates are also higher for San Francisco and the other bay counties than for the rural counties north of Tehachapi.

Of the individual counties, Marin shows the highest marriage-rates, and Orange the next highest. The rates were also above the State averages for both 1909 and 1908 for the following counties: Sacramento, San Mateo, Santa Clara, San Luis Obispo, Santa Barbara, San Joaquin, Alameda, Los Angeles, and San Francisco.

General Marriage Statistics.—There were 16,863 marriages in 1909 and 16,120 in 1908, which were the first for both parties, the per cents being, respectively, 73.6 and 74.1, or a drop of 0.5 for 1909 in contrast with 1908.

The proportion of first marriages was considerably higher each year for San Francisco than for any other geographic division, though not as high as for certain small counties in the interior. The proportion of marriages where both parties were single is very low indeed, however, for Marin and San Mateo counties adjoining San Francisco, as well as for Orange adjoining Los Angeles.

In 1909 there were 2,409 marriages of single men with widows or divorcees, but only 1,826 marriages of single women with widowers or divorced men, the corresponding figures for 1908 being 2,305 and 1,624. Each year only a few counties showed exceptions to the rule that there are more unions of bachelors with widows than of maids with widowers.

In 1,819 cases, or 7.9 per cent of all, in 1909 and in 1,690, or 7.8 per cent, in 1908, the marriages were the second or over for both grooms and brides. Marriages where both parties were widowed or divorced occur less in the metropolis than in the suburbs, and less in the whole urban area than in sparsely settled rural counties.

In 1909 altogether 19,272, or 84.1 per cent, of the grooms were single, 2,072 widowed, and 1,573 divorced; in 1908 the single were 18,425, or 84.8 per cent, the widowed 2,026, and the divorced 1,288.

The single brides in 1909 numbered 18,689, or 81.6 per cent, the widowed 2,293, and the divorced 1,935; in 1908, 17,744, or 81.6 per cent were single, 2,317 widowed, and 1,678 divorced.

The widows outnumbered the widowers by 221, or 10.7 per cent, in 1909 and by 291, or 14.4 per cent, in 1908. Similarly, the divorcees remarrying outnumbered the divorced men by 362, or 23.0 per cent, in 1909 and by 390, or 30.3 per cent, in 1908.

The per cents widowed and divorced, both among grooms and brides, were greater each year for the counties south of Tehachapi than for those to the north.

More widowers, as well as widows, remarry in the country districts than in urban centers and, in the latter, more remarry in the suburbs than in the metropolis proper.

Divorced men and women likewise marry again considerably more in the surrounding suburbs than within the main city.

The high marriage-rates for suburban counties are largely due to the fact that these places are preferred by city couples, especially by divorced persons marrying once more.

Nativity of California Brides.—Of the 22,917 brides in 1909 only 468, or 2.0 per cent, were non-Caucasians, and of 21,739 in 1908 only 417, or 1.9 per cent, belonged to other than the white race, the white brides numbering 22,449 in 1909 and 21,322 in 1908.

Of the white brides in 1909, the single numbered 18,333, or 81.7 per cent; the widowed 2,218, or 9.9 per cent; and the divorced 1,898, or 8.4 per cent. In 1908, 17,443, or 81.8 per cent, were single; 2,238, or 10.5 per cent, widowed; and 1,641, or 7.7 per cent, divorced.

The white brides born in California numbered 9,133 in 1909 and 8,637 in 1908, and among them the per cents single were, respectively, 87.0 and 88.0; the per cents widowed, 6.0 and 5.7; and the per cents divorced, 7.0 and 6.3.

The brides born in other states totaled 9,043 in 1909 and 8,352 in in 1908, among whom the per cents for the single were, respectively, 76.5 and 76.2; for the widowed, 12.4 and 13.4; and for the divorced, 11.1 and 10.4.

There were 4,273 foreign born brides in 1909 and 4,333 in 1908, among whom the per cents single were, respectively, 81.1 and 80.3; the per cents widowed 12.9 and 14.4; and the per cents divorced, only 6.0 and 5.3.

The proportion of widows and divorcees among all white brides was somewhat greater each year for the counties south of Tehachapi than for those to the north.

Widows and divorcees, especially the former, remarry more in country districts than in urban centers, while both widows and divorcees remarry more in suburban counties, like Marin and San Mateo, than in San Francisco, the metropolis proper.

In each element of the population—Californian, other American, or foreign—more divorcees, as well as widows, remarry in the suburban territory than within the metropolis itself.

Among the white brides in 1909, 9,133, or 40.7 per cent were born in California; 9,043, or 40.3 per cent, in other states; and 4,273, or 19.0 per cent, in foreign countries. In 1908, the native daughters numbered 8,637, or 40.5 per cent; other Americans 8,352, or 39.2 per cent; and the foreign born 4,333, or 20.3 per cent.

In 1909 and 1908, respectively, the per cents born in California were 43.3 and 43.5 among the single white brides; 33.6 and 33.3 among the divorced; and 24.9 and 22.0 among the widowed. In all parts of the State the native daughters form the bulk of the single brides and a large proportion of the divorced, but a small proportion of the widowed.

In 1909 and 1908 the per cents born elsewhere in the United States than here were 52.9 and 52.8 among the divorced, and 50.4 and 50.2 among the widowed, against only 37.8 and 36.5 among the single white brides. In general, a larger proportion of the divorcees than of the widows remarrying in California were born elsewhere in the United States, while relatively few of the single brides here were born in other states.

The per cents foreign born in 1909 and 1908, respectively, were 24.7 and 27.8 among the widowed as compared with 18.9 and 20.0 among the single and only 13.5 and 13.9 among the divorced. Throughout California, as a rule, the proportion of foreign born brides is highest among the widowed, and next among the single, being very low indeed among the divorced.

While the bulk of the single brides were born in California, the great bulk of the divorcees were born elsewhere in the United States, and most of the widows were likewise born outside of California, either in other states or abroad. The proportion foreign born, though relatively great among widows, is especially small among divorcees, nearly all the divorced brides being natives of California or other states.

MARRIAGE TOTALS AND INCREASE.

The State.—The law of 1905, under which County Recorders make monthly returns of marriages to the State Bureau of Vital Statistics, has now been in operation for four whole calendar years, 1906 to 1909, inclusive. The marriage total (unlike the steadily rising birth total increasing with improved registration), has fluctuated up and down slightly in this period, much as the death total has done also. The figures for the State are as follows:

TABLE 1.—*Marriage Total Compared with Birth and Death Totals, for California: 1906 to 1909.*

	1909.	1908.	1907.	1906.
Marriages	22,917	21,739	23,005	21,317
Births	30,882	28,077	24,674	20,974
Deaths	30,985	31,287	31,095	29,303

Starting with 21,317 for 1906, the marriage total reached the maximum of 23,005 for 1907, dropping then to 21,739 for 1908, but rising again to 22,917 for 1909. The increase of 1,688, or 7.9 per cent, for 1906 to 1907 was followed by a decrease of 1,266, or 5.5 per cent, for 1907 to 1908, which was succeeded, however, by an increase of 1,178, or 5.4 per cent, for 1908 to 1909. The decreased marriage total for 1908 (leap year) may be ascribed both to the shyness of women concerning leap year proposals and to a general avoidance of matrimony during a period of hard times.

Geographic Divisions.—The following table gives the marriage totals for the several geographic divisions in the four years, 1906 to 1909, inclusive, together with the number and per cent of increase for 1908 to 1909:

TABLE 2.—*Marriage Totals, with Increase 1908 to 1909, for Geographic Divisions: 1906 to 1909.*

GEOGRAPHIC DIVISION.	Marriages.				Increase: 1908 to 1909.	
	1909.	1908.	1907.	1906.	Number.	Per Cent.
THE STATE	22,917	21,739	23,005	21,317	1,178	5.4
Northern California	2,081	2,057	2,278	2,077	24	1.2
Coast counties	989	1,052	1,168	1,047	63*	6.0*
Interior counties	1,092	1,005	1,110	1,030	87	8.7
Central California	13,174	12,862	13,450	12,573	312	2.4
San Francisco	4,214	4,035	4,158	3,539	179	4.4
Other bay counties	3,790	3,721	4,169	4,217	69	1.9
Coast counties	1,626	1,637	1,697	1,642	11*	0.7*
Interior counties	3,544	3,469	3,426	3,175	75	2.2
Southern California	7,662	6,820	7,277	6,667	842	12.3
Los Angeles	4,948	4,451	4,847	4,506	497	11.2
Other counties	2,714	2,369	2,430	2,161	345	14.6
Northern and Central California	15,255	14,919	15,728	14,650	336	2.3
Coast counties	10,619	10,445	11,192	10,445	174	1.7
Interior counties	4,636	4,474	4,536	4,205	162	3.6
Metropolitan area	8,004	7,756	8,327	7,756	248	3.2
Rural counties	7,251	7,163	7,401	6,894	88	1.2

*Decrease.

It will be observed from this table that the decrease in marriages for 1908, as compared with 1907, was general throughout the State; since every main and minor geographic division except one (interior counties of Central California) reported fewer marriages for 1908 than for 1907.

The increase for 1909 over 1908, on the other hand, was likewise general throughout the State, small decreases appearing only for the coast counties of Northern and of Central California.

The marriage total for Southern California was 7,662 in 1909 against 6,820 in 1908, an increase of 842, or 12.3 per cent. the rate of gain being 11.2 for Los Angeles and 14.6 for the other counties south of Tehachapi.

For Northern and Central California together, the marriage total was 15,225 in 1909 as compared with 14,919 in 1908, a gain of 336, or 2.3 per cent, the per cent of increase being 2.4 for Central California and 1.2 for Northern California. The rate of gain for the metropolitan area was 3.2, against only 1.2 for the rural counties north of Tehachapi. Similarly, the per cent of increase was no less than 4.4 for San Francisco, as compared with only 1.9 for the suburban counties.

Counties.—The table on the following page gives the increase (or decrease) of marriages for each county, as well as the per cent of increase for those showing gains in 1909 over 1908.

TABLE 3.—*Increase of Marriages, for Counties: 1908 to 1909.*

COUNTY.	Marriages.		Increase.	Decrease.	Per Cent of Increase.
	1909.	1908.			
CALIFORNIA	22,917	21,739	1,178		5.4
Alameda	2,469	2,556		87	
Alpine	1		1		
Amador	57	53	4		7.5
Butte	193	198		5	
Calaveras	30	37		7	
Colusa	25	29		4	
Contra Costa	164	174		10	
Del Norte	20	28		8	
El Dorado	43	46		3	
Fresno	673	696		23	
Glenn	34	24	10		41.7
Humboldt	270	273		3	
Imperial	77	63	14		22.2
Inyo	37	29	8		27.6
Kern	258	212	46		21.7
Kings	199	145	54		37.2
Lake	33	44		11	
Lassen	30	37		7	
Los Angeles	4,948	4,451	497		11.2
Madera	57	75		18	
Marin	852	710	142		20.0
Mariposa	12	17		5	
Mendocino	155	139	16		11.5
Merced	88	87	1		1.1
Modoc	44	40	4		10.0
Mono	5	4	1		25.0
Monterey	172	177		5	
Napa	140	162		22	
Nevada	95	111		16	
Orange	871	620	251		40.5
Placer	78	71	7		9.9
Plumas	25	13	12		92.3
Riverside	297	315		18	
Sacramento	853	863		10	
San Benito	49	59		10	
San Bernardino	492	425	67		15.8
San Diego	624	578	46		8.0
San Francisco	4,214	4,035	179		4.4
San Joaquin	522	521	1		0.2
San Luis Obispo	206	211		5	
San Mateo	305	281	24		8.5
Santa Barbara	218	216	2		0.9
Santa Clara	941	949		8	
Santa Cruz	258	241	17		7.1
Shasta	170	128	42		32.8
Sierra	16	7	9		128.6
Siskiyou	156	149	7		4.7
Solano	152	159		7	
Sonoma	363	398		35	
Stanislaus	131	137		6	
Sutter	30	25	5		20.0
Tehama	106	96	10		10.4
Trinity	8	8			
Tulare	276	227	49		21.6
Tuolumne	61	56	5		8.9
Ventura	135	152		17	
Yolo	89	105		16	
Yuba	90	77	13		16.9

The table shows that there was one marriage in Alpine County in 1909, against none in 1908, a gain infinitely great, while Sierra and Plumas, likewise with small totals, showed per cents of increase of no less than 128.6 and 92.3, respectively.

The per cents of increase in marriages were next highest for the following counties: Glenn, 41.7; Orange, 40.5; Kings, 37.2; Shasta, 32.8;

Inyo, 27.6; Mono, 25.0; Imperial, 22.2; Kern, 21.7; Tulare, 21.6; Marin and Sutter, each 20.0; Yuba, 16.9; San Bernardino, 15.8; Mendocino, 11.5; Los Angeles, 11.2; Tehama, 10.4; Modoc, 10.0; Placer, 9.9; Tuolumne, 8.9; San Mateo, 8.5; San Diego, 8.0; Amador, 7.5; and Santa Cruz, 7.1. Each of these twenty-three counties shows a rate of gain above the average for the State, 5.4 per cent.

There were also increases in marriages, but at rates below the State average, in the following five counties arranged in descending order: Siskiyou, 4.7; San Francisco, 4.4; Merced, 1.1; Santa Barbara, 0.9; and San Joaquin, 0.2. For Trinity County exactly the same number of marriages were reported in 1909 as in 1908.

There were decreases in marriages for 1909 as compared with 1908 in the following twenty-six counties, arranged alphabetically: Alameda, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Humboldt, Lake, Lassen, Madera, Mariposa, Monterey, Napa, Nevada, Riverside, Sacramento, San Benito, San Luis Obispo, Santa Clara, Solano, Sonoma, Stanislaus, Ventura, and Yolo.

MARRIAGE-RATES.

Population Estimates.—With the publication of the Federal Census results for 1910, population estimates for preceding years can be revised with strict accuracy on the basis of county totals for June 1, 1900, and April 15, 1910, the estimates being made for the sake of uniformity as of July 1, or the middle of each year. The estimated midyear population for both 1908 and 1909 has been calculated on the assumption that the numerical increase (or decrease) was the same each month between June 1, 1900, and April 15, 1910. The average monthly increase is obtained by dividing the increase for the whole decade by 118.5 (the number of months between June 1, 1900, and April 15, 1910), and the total increase to July 1, 1908, is then got by multiplying by 97 (the number of months between June 1, 1900, and July 1, 1908), the increase to July 1, 1909, being obtained similarly by multiplying by 109 (the number of months between June 1, 1900, and July 1, 1909). The estimated midyear population for 1908 and 1909 is found, finally, by adding to the population enumerated June 1, 1900, the estimated increase to July 1, 1908 or 1909, as the case may be.*

Geographic Divisions.—For convenience in tabulation the fifty-eight counties of California have been grouped in three main and eight minor geographic divisions, shown in the table which follows, the counties in each group being arranged alphabetically for the sake of ready reference. Marriage-rates are also shown for the metropolitan area, comprising San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), in contrast with the rural counties of Northern and Central California.

The following table gives the estimated midyear population, marriages, and marriage-rate per 1,000 population for the several counties arranged by geographic divisions in both 1909 and 1908:

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*The estimated midyear population for Alameda County, for instance, was obtained as follows:

Population enumerated April 15, 1910	246,131
Population enumerated June 1, 1900	130,197
Increase, June 1, 1900, to April 15, 1910 (118.5 months)	115,930
Increase, June 1, 1900, to July 1, 1909 (× 109 ÷ 118.5)	106,644
Increase, June 1, 1900, to July 1, 1908 (× 97 ÷ 118.5)	94,900
Estimated midyear population, 1909	236,837
Estimated midyear population, 1908	225,097

TABLE 4.—*Estimated Midyear Population, Marriages, and Marriage-rate per 1,000 Population, for Counties arranged Geographically: 1909 and 1908.*

COUNTY.	Estimated Midyear Population.		Marriages.		Marriage-rate per 1,000 Population.	
	1909.	1908.	1909.	1908.	1909.	1908.
THE STATE	2,306,001	2,215,615	22,917	21,739	9.9	9.8
Northern California	295,108	290,858	2,081	2,057	7.1	7.1
Coast counties	135,468	133,247	989	1,052	7.3	7.9
Del Norte	2,416	2,415	20	28	8.3	11.6
Humboldt	33,316	32,632	270	273	8.1	8.4
Lake	5,565	5,615	33	44	5.9	7.8
Mendocino	23,652	23,301	155	139	6.6	6.0
Napa	19,532	19,192	173	151	8.9	7.9
Sonoma	47,599	46,595	363	398	7.6	8.5
Trinity	3,388	3,497	8	8	2.4	2.3
Interior counties	159,640	157,611	1,092	1,005	6.8	6.4
Butte	26,485	25,453	193	198	7.3	7.8
Colusa	7,702	7,665	25	29	3.2	3.8
Glenn	7,010	6,805	34	24	4.9	3.5
Lassen	4,779	4,749	30	37	6.3	7.8
Modoc	6,102	5,989	44	40	7.2	6.7
Nevada	15,182	15,469	95	111	6.3	7.2
Placer	18,041	17,792	78	71	4.3	4.0
Plumas	5,211	5,150	25	13	4.8	2.5
Shasta	18,792	18,629	170	128	9.0	6.9
Sierra	4,092	4,083	16	7	3.9	1.7
Siskiyou	18,654	18,467	156	149	8.4	8.1
Sutter	6,293	6,248	30	25	4.8	4.0
Tehama	11,369	11,328	106	96	9.3	8.5
Yuba	9,928	9,784	90	77	9.1	7.9
Central California	1,295,427	1,254,567	13,174	12,862	10.2	10.3
San Francisco	410,969	403,462	4,214	4,035	10.3	10.0
Other bay counties	317,200	301,660	3,790	3,721	11.9	12.3
Alameda	236,837	225,097	2,469	2,556	10.4	11.4
Contra Costa	30,581	29,201	164	174	5.4	6.0
Marin	24,359	23,406	852	710	35.0	30.3
San Mateo	25,423	23,956	305	281	12.0	11.7
Coast counties	158,293	154,559	1,626	1,637	10.3	10.6
Monterey	23,764	23,281	172	177	7.2	7.6
San Benito	7,928	7,786	49	59	6.2	7.6
San Luis Obispo	19,163	18,885	206	211	10.7	11.2
Santa Clara	81,669	79,307	941	949	11.5	12.0
Santa Cruz	25,769	25,300	258	241	10.0	9.5
Interior counties	408,965	394,886	3,544	3,469	8.7	8.8
Alpine	325	345	1	---------	3.1	-------
Amador	9,249	9,454	57	53	6.2	5.6
Calaveras	9,334	9,539	30	37	3.2	3.9
El Dorado	7,612	7,763	43	46	5.6	5.9
Fresno	72,627	68,800	673	696	9.3	10.1
Inyo	6,766	6,503	37	29	5.5	4.5
Kern	36,013	33,862	258	212	7.2	6.3
Kings	15,720	15,076	199	145	12.7	9.6
Madera	8,207	8,004	57	75	6.9	9.4
Mariposa	4,017	4,095	12	17	3.0	4.2
Merced	14,672	14,072	88	87	6.0	6.2
Mono	2,052	2,065	5	4	2.4	1.9
Sacramento	66,051	63,834	853	863	12.9	13.5
San Joaquin	49,506	47,959	522	521	10.5	10.9
Solano	27,285	26,939	152	159	5.6	5.9
Stanislaus	21,482	20,168	131	137	6.1	6.8
Tulare	34,072	32,344	276	227	8.1	7.0
Tuolumne	10,074	10,194	61	56	6.1	5.5
Yolo	13,901	13,870	89	105	6.4	7.6
Southern California	715,466	670,190	7,662	6,820	10.7	10.2
Los Angeles	477,368	443,562	4,948	4,451	10.4	10.0
Other counties	238,098	226,628	2,714	2,369	11.4	10.5
Imperial	13,039	12,302	77	63	5.9	5.1
Orange	33,254	31,762	871	620	26.2	19.5
Riverside	33,349	31,648	297	315	8.9	10.0
San Bernardino	54,399	51,485	492	425	9.0	8.3
San Diego	58,997	55,666	624	578	10.6	10.4
Santa Barbara	27,032	26,141	218	216	8.1	8.3
Ventura	18,028	17,624	135	152	7.5	8.6
Northern and Central California	1,590,535	1,545,425	15,255	14,919	9.6	9.7
Coast counties	1,021,930	992,928	10,619	10,445	10.4	10.5
Interior counties	568,605	552,497	4,636	4,474	8.2	8.1
Metropolitan area	728,169	705,122	8,004	7,756	11.0	11.0
Rural counties	862,366	840,303	7,251	7,163	8.4	8.5

For an estimated midyear population of 2,306,001 in 1909, the 22,917 marriages registered in California give a marriage-rate of 9.9 per 1,000 inhabitants, while for an estimated midyear population of 2,215,615 in 1908, the 21,739 marriages in the State represent a rate of 9.8 per 1,000 population.

It may be added that for an estimated midyear population of 2,215,615 in 1907, the 23,005 marriages give a rate of 10.8, while for an estimated midyear population of 2,034,861 in 1906, the 21,317 marriages give a rate of 10.5.

The marriage-rates are somewhat higher for the counties south of Tehachapi than for those to the north, being 10.7 and 10.2 for Southern California against 9.6 and 9.7 for Northern and Central California together in 1909 and 1908, respectively. The marriage-rates for Central California were 10.2 and 10.3 in 1909 and 1908, respectively, while for Northern California the marriage-rate was 7.1 each year. In both 1909 and 1908 the rate was higher for the coast counties than for the interior counties. The rates were also higher each year for the metropolitan area, comprising San Francisco and the other bay counties, 11.0 each year, than for the rural counties north of Tehachapi, 8.4 for 1909 and 8.5 for 1908.

The rates were 10.4 and 10.0 for Los Angeles County in 1909 and 1908, and, respectively, 11.4 and 10.5 for the rest of Southern California. The other minor geographic divisions with rates above the State averages of 9.9 and 9.8 for 1909 and 1908, respectively, are as follows: San Francisco, 10.3 and 10.0; the other bay counties, 11.9 and 12.3; and the adjoining coast counties of Central California, 10.3 and 10.6.

Counties.—Among the individual counties, Marin, adjoining San Francisco, shows the highest marriage-rates, 35.0 in 1909 and 30.3 in 1908, and Orange, adjoining Los Angeles, shows the next highest rates, 26.2 and 19.5 for 1909 and 1908, respectively. The marriage-rates are also notably high for the following counties: Sacramento, 12.9 and 13.5 in 1909 and 1908, respectively; San Mateo, 12.0 and 11.7; Santa Clara, 11.5 and 12.0; San Luis Obispo, 10.7 and 11.2; Santa Barbara, 10.6 and 10.4; San Joaquin, 10.5 and 10.9; Alameda, 10.4 and 11.4; Los Angeles, 10.4 and 10.0; and San Francisco, 10.3 and 10.0. These are the counties with marriage-rates above the State averages, 9.9 for 1909, and 9.8 for 1908. The rates were also above the State average of 9.9 for 1909 alone for Kings, 12.7 (but only 9.6 in 1908), and for Santa Cruz, 10.0 (but only 9.5 in 1908). The rates were likewise above the State average of 9.8 for 1908 alone for Del Norte, 11.6 (but only 8.3 in 1909); Fresno, 10.1 (but only 9.3 in 1909); and Riverside, 10.0 (but only 8.9 in 1909). The counties named comprise all those for which the marriage-rate was at least 10.0 per 1,000 population for one or both of the years 1909 and 1908.

The counties mentioned as having high marriage-rates will be recognized generally as counties having large cities. Inspection of the table also shows that in each geographic division the counties with the highest rates for the particular group are counties containing important cities or towns. Moreover, the marriage-rates are higher for the metropolitan area than for the rural counties north of Tehachapi. It seems, therefore, that there is a strong tendency for marriageable persons living in the country to go to an urban center to be married; if not to the metropolis itself, then to the largest city accessible for a satisfactory celebration of the event.

On the other hand, there is a counter movement by which couples living in metropolitan centers like San Francisco or Los Angeles select for their place of marriage not the metropolis proper, but instead a suburban city or town. This is shown by the very great proportion of marriages to resident inhabitants for Marin and San Mateo counties in the suburbs of San Francisco and for Orange County, adjoining Los Angeles. In short, country swains like to celebrate marriage in large cities, while couples belonging to a metropolis are apt to prefer the suburbs.

GENERAL MARRIAGE STATISTICS.

Number in Order.—The table on the following page shows the number in order of marriages, with per cents, for the three main and eight minor geographic divisions, as well as certain other groups of counties, in both 1909 and 1908. Similar figures for individual counties, arranged alphabetically, may be found in Tables 13 and 14, pages 180 to 182.

TABLE 5.—*Marriages classified by Number in Order, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Total Marriages.	Number of Marriage.				Per Cent of Marriages.			
		First of Both Parties.	First of Groom Only.	First of Bride Only.	Second or Over of Both.	First of Both Parties.	First of Groom Only.	First of Bride Only.	Second or Over of Both.
1909.									
THE STATE	22,917	16,863	2,409	1,826	1,819	73.6	10.5	8.0	7.9
Northern California	2,081	1,544	247	135	155	74.2	11.9	6.5	7.4
Coast counties	989	746	111	66	66	75.4	11.2	6.7	6.7
Interior counties	1,092	798	136	69	89	73.1	12.5	6.3	8.1
Central California	13,174	9,894	1,356	1,004	920	75.1	10.3	7.6	7.0
San Francisco	4,214	3,303	406	272	233	78.4	9.6	6.5	5.5
Other bay counties	3,790	2,727	416	325	322	71.9	11.0	8.6	8.5
Coast counties	1,626	1,197	158	149	122	73.6	9.7	9.2	7.5
Interior counties	3,544	2,667	376	258	243	75.2	10.6	7.3	6.9
Southern California	7,662	5,425	806	687	744	70.8	10.5	9.0	9.7
Los Angeles	4,948	3,587	492	422	447	72.5	10.0	8.5	9.0
Other counties	2,714	1,838	314	265	297	67.7	11.6	9.8	10.9
Northern and Central California	15,255	11,438	1,603	1,139	1,075	75.0	10.5	7.5	7.0
Coast counties	10,619	7,973	1,091	812	743	75.1	10.3	7.6	7.0
Interior counties	4,636	3,465	512	327	332	74.7	11.0	7.1	7.2
Metropolitan area	8,004	6,030	822	597	555	75.3	10.3	7.5	6.9
Rural counties	7,251	5,408	781	542	520	74.6	10.7	7.5	7.2
1908.									
THE STATE	21,739	16,120	2,305	1,624	1,690	74.1	10.6	7.5	7.8
Northern California	2,057	1,588	212	113	144	77.2	10.3	5.5	7.0
Coast counties	1,052	816	97	60	79	77.6	9.2	5.7	7.5
Interior counties	1,005	772	115	53	65	76.8	11.4	5.3	6.5
Central California	12,862	9,688	1,376	923	875	75.3	10.7	7.2	6.8
San Francisco	4,035	3,165	414	264	192	78.4	10.3	6.5	4.8
Other bay counties	3,721	2,685	434	316	286	72.1	11.7	8.5	7.7
Coast counties	1,637	1,225	157	121	134	74.8	9.6	7.4	8.2
Interior counties	3,469	2,613	371	222	263	75.3	10.7	6.4	7.6
Southern California	6,820	4,844	717	588	671	71.0	10.5	8.6	9.9
Los Angeles	4,451	3,203	444	379	425	72.0	10.0	8.5	9.5
Other counties	2,369	1,641	273	209	246	69.3	11.5	8.8	10.4
Northern and Central California	14,919	11,276	1,588	1,036	1,019	75.6	10.6	7.0	6.8
Coast counties	10,445	7,891	1,102	761	691	75.5	10.6	7.3	6.6
Interior counties	4,474	3,385	486	275	328	75.7	10.9	6.1	7.3
Metropolitan area	7,756	5,850	848	580	478	75.4	10.9	7.5	6.2
Rural counties	7,163	5,426	740	456	541	75.7	10.3	6.4	7.6

It appears from Table 5 that of 22,917 marriages in 1909, 16,863 were first marriages for both parties; 2,409 were first marriages for the grooms only; 1,826 were first marriages for the brides only; and 1,819 were second marriages or over for both grooms and brides. Of 21,739 marriages in 1908, there were 16,120 in which neither party had been married before; 2,305 where only the grooms were single; 1,624 where only the brides were single; and 1,690 where both grooms and brides were widowed or divorced.

The per cent of marriages which were the first for both parties was 73.6 in 1909 as compared with 74.1 in 1908, a drop of 0.5 in the per cent of first marriages. The per cent of marriages which were the first for the grooms only was 10.5 in 1909 against 10.6 in 1908, a drop of 0.1 in the per cent for grooms. On the other hand, the per cent of marriages which were the first for the brides only was 8.0 in 1909 as compared with only 7.5 in 1908, a rise of 0.5 in the per cent for brides. The per cent of marriages which were the second or over for both grooms and brides was 7.9 in 1909 against 7.8 in 1908, a rise of 0.1 in the per cent of second marriages or over. In short, for 1909, as compared with 1908, there was a loss in the proportion of marriages where both parties were single and in the proportion where only the grooms were single, while, on the other hand, there was a notable rise in the proportion of marriages where only the brides were single and a small gain in the proportion where both parties had been married before.

The per cent of first marriages for both parties was much higher each year for the counties north of Tehachapi, 75.0 in 1909 and 75.6 in 1908, than for Southern California, 70.8 and 71.0, respectively. The per cents for Northern California were 74.2 and 77.2, and for Central California were 75.1 and 75.3 in 1909 and 1908, respectively.

The per cents of first marriages are not far from the same for the metropolitan area as for the rural counties north of Tehachapi, being 75.3 and 75.4 for the former against 74.6 and 75.7 for the latter in 1909 and 1908, respectively. Within the metropolitan area, however, there are wide differences between the per cents for San Francisco and for the other bay counties, the per cent for the metropolis proper being no less than 78.4 each year (or the highest among geographic divisions), but only 71.9 in 1909 and 72.1 in 1908 for the group of suburban counties (Alameda, Contra Costa, Marin, and San Mateo). Similarly, the per cents of first marriages were 72.5 and 72.0 for Los Angeles in 1909 and 1908, but as low as 67.7 and 69.3 for the other counties south of Tehachapi.

The proportion of marriages which were the first for both parties is very high for certain small counties. Thus, both parties were single in the 1 marriage in Alpine County in 1909 and in each of the 7 in Sierra in 1908, while the per cent of first marriages was also very high in 1909 for Colusa (96.0) and for Lassen (90.0).

The per cents of first marriages, on the other hand, are very low indeed for individual counties adjoining San Francisco and Los Angeles. Thus, for counties adjoining San Francisco, the per cents were only 67.9 and 67.6 for San Mateo in 1909 and 1908, and as low as 65.7 and 64.5 respectively, for Marin. Likewise, the per cents of first marriages for Orange County, adjoining Los Angeles, were only 64.2 in 1909 and 64.5 in 1908. There are only a few other counties in the State where in 1909 or 1908 less than 70.0 per cent of the marriages were first marriages for both parties, the additional counties in 1909 being Del Norte, Imperial, Placer, San Bernardino, San Diego, Shasta, Siskiyou, and Trinity, and in 1908, El Dorado, Inyo, Monterey, Plumas, San Diego, and Yuba.

In 1909 there were 2,409 marriages, which were the first for only the grooms, as compared with only 1,826, which were the first for only the brides. Similarly, in 1908, the first marriages for only the grooms numbered 2,305 against only 1,624 for the first marriages of the brides alone. The excess of first marriages of grooms only over first marriages of brides only was 583, or 31.9 per cent, in 1909, and 681, or 41.9 per cent, in 1908. In other words, the number of single men marrying widowed or divorced women is greater by from three tenths to four tenths, or roughly speaking, about one third, than the number of single women marrying widowed or divorced men. No main or minor geographic division of California shows any departure from this rule, that there are more unions of bachelors with widows than of maids with widowers. In fact, there were exceptions to the rule, and only slight exceptions at that, for only nine of the whole fifty-eight counties in either 1909 or 1908, the nine for 1909 being Amador, Fresno, Glenn, Inyo, Placer, Riverside, San Benito, Santa Cruz, and Tuolumne, and the nine for 1908 being Fresno, Glenn, Lassen, Merced, Mono, Santa Barbara, Solano, Stanislaus, and Ventura. In Imperial in 1909 and in Lake, San Luis Obispo, and Trinity in 1908 there were exactly the same number of marriages where only the grooms were single as where only the brides were single. But in all the remaining counties of the State the rule holds good that there are more marriages between bachelors and widows than between maidens and widowers.

The per cent of marriages which were the second or over for both grooms and brides (7.9 per cent for the State in 1909 against 7.8 per cent for 1908) is higher for Southern California than for Northern and Central California. The per cents in 1909 and 1908, respectively, were 9.7 and 9.9 for the counties south of Tehachapi as compared with 7.0 and 6.8 for those to the north, being 7.4 and 7.0 for Northern California alone and 7.0 and 6.8 for Central California alone. The per cent of marriages where both parties were widowed or divorced was highest of all each year for the counties of Southern California other than Los Angeles, 10.9 in 1909 and 10.4 in 1908, against 9.0 and 9.5, respectively, for Los Angeles alone. In Northern and Central California the per cents for the rural counties were 7.2 and 7.6 in 1909 and 1908 as compared with 6.9 and 6.2, respectively, for the metropolitan area. Within the metropolitan area, moreover, the per cents were no less than 8.5 in 1909 and 7.7 in 1908 for the suburban counties against only 5.5 and 4.8, respectively, or the lowest of all each year, for San Francisco alone. Marriages between widowed or divorced men and women occur less in San Francisco than in the suburbs and less in an urban center like San Francisco or Los Angeles than in sparsely settled rural districts. Thus, the counties in which at least one tenth of the marriages were between widowers and widows were in 1909 Calaveras, Del Norte, Imperial, Madera, Marin, Orange, Placer, San Bernardino, San Diego, San Mateo, and Shasta, and in 1908 Colusa, Inyo, Madera, Monterey, Orange, San Bernardino, San Diego, and Tuolumne.

Status of Grooms.—The table which follows gives for each geographic division in 1909 and 1908 the civil status or marital condition of the grooms—whether single, widowed, or divorced—at the time of marriage:

TABLE 6.—*Grooms classified by Marital Condition, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Grooms.				Per Cent.		
	Total.	Single.	Widowed	Divorced.	Single.	Widowed.	Divorced.
1909.							
THE STATE	22,917	19,272	2,072	1,573	84.1	9.0	6.9
Northern California	2,081	1,791	173	117	86.1	8.3	5.6
Coast counties	989	857	76	56	86.6	7.7	5.7
Interior counties	1,092	934	97	61	85.5	8.9	5.6
Central California	13,174	11,250	1,060	864	85.4	8.0	6.6
San Francisco	4,214	3,709	293	212	88.0	7.0	5.0
Other bay counties	3,790	3,143	329	318	82.9	8.7	8.4
Coast counties	1,626	1,355	156	115	83.3	9.6	7.1
Interior counties	3,544	3,043	282	219	85.9	7.9	6.2
Southern California	7,662	6,231	839	592	81.3	11.0	7.7
Los Angeles	4,948	4,079	527	342	82.4	10.7	6.9
Other counties	2,714	2,152	312	250	79.3	11.5	9.2
Northern and Central California	15,255	13,041	1,233	981	85.5	8.1	6.4
Coast counties	10,619	9,064	854	701	85.4	8.0	6.6
Interior counties	4.636	3,977	379	280	85.8	8.2	6.0
Metropolitan area	8,004	6,852	622	530	85.6	7.8	6.6
Rural counties	7,251	6,189	611	451	85.4	8.4	6.2
1908.							
THE STATE	21,739	18,425	2,026	1,288	84.8	9.3	5.9
Northern California	2,057	1,800	168	89	87.5	8.2	4.3
Coast counties	1,052	913	85	54	86.8	8.1	5.1
Interior counties	1,005	887	83	35	88.2	8.3	3.5
Central California	12,862	11,064	1,052	746	86.0	8.2	5.8
San Francisco	4,035	3,579	273	183	88.7	6.8	4.5
Other bay counties	3,721	3,119	331	271	83.8	8.9	7.3
Coast counties	1,637	1,382	153	102	84.4	9.4	6.2
Interior counties	3,469	2,984	295	190	86.0	8.5	5.5
Southern California	6,820	5,561	806	453	81.5	11.8	6.7
Los Angeles	4,451	3,647	532	272	81.9	12.0	6.1
Other counties	2,369	1,914	274	181	80.8	11.6	7.6
Northern and Central California	14,919	12,864	1,220	835	86.2	8.2	5.6
Coast counties	10,445	8,993	842	610	86.1	8.1	5.8
Interior counties	4,474	3,871	378	225	86.5	8.5	5.0
Metropolitan area	7,756	6,698	604	454	86.4	7.8	5.8
Rural counties	7,163	6,166	616	381	86.1	8.6	5.3

The table shows that of 22,917 grooms in 1909, 19,272, or 84.1 per cent, were single; 2,072, or 9.0 per cent, were widowed; and 1,573, or 6.9 per cent, were divorced. Of the 21,739 grooms in 1908, the single were 18,425, or 84.8 per cent; the widowed 2,026, or 9.3 per cent; and the divorced 1,288, or 5.9 per cent. There was a decrease of 0.7 in the per cent single for 1909 as compared with 1908 and a decrease of 0.3 in the per cent widowed, while on the other hand there was an increase of 1.0 in the per cent divorced.

Relatively more grooms were single in Northern and Central California than in Southern California. The per cent single for the counties north of Tehachapi was 85.5 in 1909 and 86.2 in 1908, while for the counties to the south the per cents were only 81.3 and 81.5, respectively. There is comparatively little difference between the per cents for the metropolitan area and for the rural counties of Northern and Central California, the per cents differing by only 0.2 (85.6 against 85.4) in 1909 and by 0.3 (86.4 against 86.1) in 1908. However, there are wide differences in the metropolitan area between the per cents for San Francisco and the other bay counties. The per cent of single grooms in the metropolis proper was 88.0 in 1909 and 88.7 in 1908, these being the maximum per cents among geographic divisions, while for the suburban counties the per cents were, respectively, 82.9 and 83.8, or the lowest outside Southern California. The per cents single were 82.4 and 81.9 for Los Angeles in 1909 and 1908, but only 79.3 and 80.8, respectively, for the other counties south of Tehachapi.

The individual counties in which at least 90.0 per cent of the grooms were single were (in 1909) Alpine, Butte, Calaveras, Colusa, El Dorado, Humboldt, Lake, Lassen, Mariposa, Modoc, Mono, Plumas, and Sutter, and (in 1908) Amador, Contra Costa, Del Norte, Kings, Lassen, Modoc, Nevada, Plumas, Sierra, and Sutter. On the other hand, those in which only 80.0 per cent or less of the grooms were single were Del Norte, Imperial, Marin, Orange, Placer, San Bernardino, San Diego, and Shasta in 1909, and Inyo, Mono, Orange, and San Diego in 1908.

The proportion of widowers among the grooms is much greater for Southern California than for Northern or Central California. The per cent widowed for the counties south of Tehachapi was 11.0 in 1909 and 11.8 in 1908 as compared with only 8.1 and 8.2, respectively, for the counties to the north. The per cents were 10.7 and 12.0 for Los Angeles, and 11.5 and 11.6 for the other counties south of Tehachapi in 1909 and 1908, respectively. North of Tehachapi, the per cents were only 7.8 each year for the metropolitan area against 8.4 in 1909 and 8.6 in 1908 for the rural counties. Within the metropolitan area, moreover, the per cents were only 7.0 and 6.8 for the metropolis proper as compared with 8.7 and 8.9 for the suburban counties. Generally speaking, more widowers remarry in the rural counties than in metropolitan centers, and in the metropolitan district more remarry in the suburbs than in the main city.

The counties in which widowers formed at least one tenth (10.0 per cent) of all grooms in 1909 were: Del Norte, Glenn, Placer, Santa Clara, Santa Cruz, Shasta, Siskiyou, Tehama, Trinity, and Tuolumne, north of Tehachapi; and Imperial, Los Angeles, Riverside, San Bernardino, San Diego, and Santa Barbara, in Southern California. In 1908 the counties in which 10.0 per cent or more of the grooms were widowers were: Colusa, El Dorado, Glenn, Inyo, Kern, Merced, Mono, Monterey, Napa, Placer, Santa Cruz, Tehama, Tuolumne, and Yuba, in Northern and Central California; and Los Angeles, Orange, San Diego, Santa Barbara, and Ventura, south of Tehachapi.

The proportion of divorced grooms, as of the widowed, is greater for the counties south of Tehachapi than for those to the north The per cents divorced in 1909 and 1908, respectively, were 7.7 and 6.7 for Southern California as compared with 6.6 and 5.8 for Central California and 5.6 and 4.3 for Northern California, or 6.4 and 5.6 for both together The per cents were 6.9 and 6.1 for Los Angeles in 1909 and 1908 against 9.2 and 7.6, respectively, for the other counties of Southern California. North of Tehachapi, on the other hand, the per cents divorced are greater for the metropolitan area than for the rural counties, being 6.6 and 5.8 for the former against 6.2 and 5.3 for the latter. Within the metropolitan area, however, the per cents divorced are much less for San Francisco than for the suburbs, being only 5.0 and 4.5 for the metropolis proper as compared with 8.4 and 7.3 for the other bay counties. While more divorced men remarry in the metropolitan area than in the rural districts, not nearly so many remarry in the main city as in the surrounding suburbs.

The individual counties in which at least 7.5 per cent of the grooms were divorced were (in 1909) Del Norte, Imperial, Inyo, Marin, Monterey, Napa, Orange, Placer, Sacramento, San Bernardino, San Diego, San Mateo, Shasta, and Tehama, and (in 1908) Inyo, Marin, Orange, San Benito, San Bernardino, and Trinity. The per cent of divorced grooms was notably high each year for Orange (12.5 in 1909 and 10.2 in 1908) and for Marin (11.9 and 10.0), as well as for San Mateo in 1909 alone (10.5), these being counties adjacent to Los Angeles and San Francisco, respectively.

Status of Brides.—The following table shows for the several geographic divisions in 1909 and 1908 the civil status or marital condition of the brides—whether single, widowed, or divorced—on the wedding day:

TABLE 7.—*Brides classified by Marital Condition, with Per Cents, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	Grooms.				Per Cent.		
	Total.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.
1909.							
THE STATE	22,917	18,689	2,293	1,935	81.6	10.0	8.4
Northern California	2,081	1,679	218	184	80.7	10.5	8.8
Coast counties	989	812	94	83	82.1	9.5	8.4
Interior counties	1,092	867	124	101	79.4	11.4	9.2
Central California	13,174	10,898	1,188	1,088	82.7	9.0	8.3
San Francisco	4,214	3,575	351	288	84.9	8.3	6.8
Other bay counties	3,790	3,052	364	374	80.5	9.6	9.9
Coast counties	1,626	1,346	133	147	82.8	8.2	9.0
Interior counties	3,544	2,925	340	279	82.5	9.6	7.9
Southern California	7,662	6,112	887	663	79.8	11.6	8.6
Los Angeles	4,948	4,009	553	386	81.0	11.2	7.8
Other counties	2,714	2,103	334	277	77.5	12.3	10.2
Northern and Central California	15,255	12,577	1,406	1,272	82.5	9.2	8.3
Coast counties	10,619	8,785	942	892	82.7	8.9	8.4
Interior counties	4,636	3,792	464	380	81.8	10.0	8.2
Metropolitan area	8,004	6,627	715	662	82.8	8.9	8.3
Rural counties	7,251	5,950	691	610	82.1	9.5	8.4
1908.							
THE STATE	21,739	17,744	2,317	1,678	81.6	10.7	7.7
Northern California	2,057	1,701	215	141	82.7	10.4	6.9
Coast counties	1,052	876	109	67	83.3	10.3	6.4
Interior counties	1,005	825	106	74	82.1	10.5	7.4
Central California	12,862	10,611	1,253	998	82.5	9.7	7.8
San Francisco	4,035	3,429	355	251	85.0	8.8	6.2
Other bay counties	3,721	3,001	383	337	80.6	10.3	9.1
Coast counties	1,637	1,346	160	131	82.2	9.8	8.0
Interior counties	3,469	2,835	355	279	81.7	10.2	8.1
Southern California	6,820	5,432	849	539	79.6	12.5	7.9
Los Angeles	4,451	3,582	541	328	80.5	12.1	7.4
Other counties	2,369	1,850	308	211	78.1	13.0	8.9
Northern and Central California	14,919	12,312	1,468	1,139	82.5	9.9	7.6
Coast counties	10,445	8,652	1,007	786	82.8	9.7	7.5
Interior counties	4,474	3,660	461	353	81.8	10.3	7.9
Metropolitan area	7,756	6,430	738	588	82.9	9.5	7.6
Rural counties	7,163	5,882	730	551	82.1	10.2	7.7

It appears from this table that of 22,917 brides in 1909, the single numbered 18,689, or 81.6 per cent; the widowed 2,293, or 10.0 per cent; and the divorced 1,935, or 8.4 per cent. Of the 21,739 brides in 1908, 17,744, or 81.6 per cent, were single; 2,317, or 10.7 per cent, were widowed; and 1,678, or 7.7 per cent, were divorced. The per cent single was exactly the same each year, but for 1909 as compared with 1908 there was a drop of 0.7 in the per cent widowed and a rise of 0.7 in the per cent divorced.

It may be noted that in 1909 the widowed grooms numbered only 2,072 against 2,293 for the brides, and that in 1908 the widowers totaled 2,026 and the widows 2,317. That is, the widows outnumbered the widowers by 221, or 10.7 per cent, in 1909 and by 291, or 14.4 per cent, in 1908. In 1909 the divorced grooms numbered only 1,573 and the brides 1,935, while in 1908, similarly, the divorced men remarrying totaled 1,288 and the women 1,678. In other words, the number of divorced women remarrying exceeded that of divorced men by 362, or 23.0 per cent, in 1909 and by 390, or 30.3 per cent, in 1908.

Relatively more brides were single in the counties north of Tehachapi than in those to the south. The per cent single among brides was 82.5 each year for Northern and Central California together against only 79.8 in 1909 and 79.6 in 1908 for Southern California. The per cent for the metropolitan area was 82.8 in 1909 and 82.9 in 1908 as compared with only 82.1 each year for the rural counties north of Tehachapi. The per cent of single brides for San Francisco was 84.9 in 1909 and 85.0 in 1908, these being the maximum per cents among geographic divisions. At the same time, however, the per cents for the other bay counties were only 80.5 and 80.6, respectively, or about the lowest outside Southern California. The per cents single were 81.0 and 80.5 for Los Angeles in 1909 and 1908, but only 77.5 and 78.1, respectively, for the other counties south of Tehachapi.

The individual counties in which at least 90.0 per cent of the brides were single were Alpine, Amador, Colusa, Humboldt, Inyo, Lassen, San Benito, and Sutter in 1909, and Glenn, Lassen, Mono, and Sierra in 1908. On the other hand, the counties in which only 80.0 per cent or less of the brides were single were as follows: In 1909, Butte, Calaveras, Contra Costa, Del Norte, El Dorado, Imperial, Kern, Madera, Marin, Mariposa, Mono, Nevada, Orange, Placer, Plumas, Sacramento, San Bernardino, San Diego, San Joaquin, San Mateo, Shasta, Siskiyou, Sonoma, Tehama, Trinity, and Yuba; and in 1908, Colusa, Del Norte, El Dorado, Inyo, Madera, Marin, Monterey, Orange, Plumas, Sacramento, San Bernardino, San Diego, San Mateo, Shasta, Sutter, Tehama, Tulare, Tuolumne, and Yuba.

The proportion of widows among the brides, as of widowers among grooms, is higher for Southern California than for Northern or Central California. The per cent of widowed brides for the counties south of Tehachapi was 11.6 in 1909 and 12.5 in 1908 as compared with 9.2 and 9.9, respectively, for the counties to the north, the per cents being 10.5 and 10.4 for Northern California and 9.0 and 9.7 for Central California. The per cents were 11.2 and 12.1 for Los Angeles in 1909 and 1908 against no less than 12.3 and 13.0 for the other counties of Southern California. The per cents for the metropolitan area were 8.9 and 9.5 as compared with 9.5 and 10.2 for the rural counties north of

Tehachapi. The per cents for San Francisco were only 8.3 and 8.8 in 1909 and 1908 against 9.6 and 10.3, respectively, for the other bay counties. As with widowers, so with widows, somewhat more remarry in the country districts than in urban centers, and, in the latter, more remarry in the suburbs than in the metropolis proper.

The counties in which widows formed at least one tenth (10.0 per cent) of all brides in 1909 were: Butte, Calaveras, Contra Costa, Del Norte, Kern, Lake, Marin, Mariposa, Mendocino, Merced, Mono, Napa, Nevada, Plumas, Sacramento, San Joaquin, San Mateo, Santa Cruz, Shasta, Sierra, Siskiyou, Stanislaus, Tehama, Trinity, Tuolumne, Yolo, and Yuba, in Northern and Central California; and Imperial, Los Angeles, Orange, San Bernardino, San Diego, and Ventura, in Southern California. In 1908 the counties in which 10.0 per cent or more of the brides were widows were: North of Tehachapi—Butte, Colusa, Del Norte, El Dorado, Humboldt, Inyo, Kern Madera, Marin, Mariposa, Monterey, Napa, Nevada, Sacramento, San Benito, San Joaquin, San Mateo, Santa Cruz, Shasta, Solano, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yuba; and south of Tehachapi—Imperial, Los Angeles, Orange, Riverside, San Bernardino, and San Diego.

The proportion of divorced brides, as of the grooms, is somewhat greater for Southern California than for Northern or Central California. The per cents divorced among brides in 1909 and 1908, respectively, were 8.6 and 7.9 for the counties south of Tehachapi against 8.3 and 7.6 for those to the north, being 8.8 and 6.9 for Northern California and 8.3 and 7.8 for Central California. The per cents were 7.8 and 7.4 for Los Angeles in 1909 and 1908 as compared with no less than 10.2 and 8.9 for the other counties of Southern California. North of Tehachapi, however, the per cents divorced among brides are practically the same for the metropolitan area as for the rural counties, being 8.3 and 8.4, respectively, in 1909 and, similarly, 7.6 and 7.7 in 1908. Within the metropolitan area, on the contrary, the per cent of divorced brides (as of grooms) is much less for San Francisco than for the other bay counties, the per cents divorced among brides being only 6.8 and 6.2 for the metropolis proper against as much as 9.9 and 9.1 for the suburban territory. Generally speaking, divorced women, unlike divorced men, remarry somewhat more in rural districts than in an urban center, while both divorcees and divorced men remarry less in the main city than in the adjacent suburbs.

The individual counties in which at least 7.5 per cent of all brides in 1909 were divorced were: Alameda, Butte, Contra Costa, Del Norte, El Dorado, Kern, Madera, Marin, Mariposa, Mendocino, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Siskiyou, Sonoma, Trinity, and Yuba, in Northern and Central California; and Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Santa Barbara, in Southern California. The counties with 7.5 per cent or more divorced brides in 1908 were: North of Tehachapi—Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Inyo, Kings, Madera, Marin, Monterey, Plumas, Sacramento, San Mateo, Santa Clara, Shasta, Siskiyou, Tulare, and Yuba; and south of Tehachapi—Orange, San Bernardino, and San Diego. The per cent of divorced brides was especially high each year for Marin (13.2 in 1909 and 13.4 in 1908) and for San Mateo (12.1 and 11.0), adjoining San Francisco, as well as for Orange (14.1 and 12.3), adjoining Los Angeles.

In general, the proportion widowed and divorced, both among grooms and brides, is notably high for counties like Marin and San Mateo in the north and Orange in the south, adjacent to the great cities of San Francisco and Los Angeles. Analysis of marriage rates showed that there is a tendency on the part of many couples belonging to these cities to go to the suburbs to be married. This preference for a suburban town rather than the city proper as a place of marriage is most marked on the part of widowed and divorced persons marrying again, especially on the part of the divorced. The secretive divorcee even more than the romantic maiden enjoys the seclusion of a suburban Gretna Green.

NATIVITY OF CALIFORNIA BRIDES.

Race and Nativity.—The table below gives for California in 1909 and 1908 a classification of brides by race, nativity, and marital condition, as well as the per cent distribution by marital condition. The white brides of unknown nativity numbered only 92, or 0.4 per cent, in 1909 and 113, or 0.5 per cent, in 1908. These few have accordingly been included throughout with brides born elsewhere in the United States than California:

TABLE 8.—*Brides classified by Race, Nativity, and Marital Condition, with Per Cent Distribution by Marital Condition, for California: 1909 and 1908.*

RACE OR NATIVITY.	Brides.				Per Cent.		
	Total.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.
1909.							
THE STATE	22,917	18,689	2,293	1,935	81.6	10.0	8.4
White	22,449	18,333	2,218	1,898	81.7	9.9	8.4
Born in California	9,133	7,944	552	637	87.0	6.0	7.0
Born in other states*	9,043	6,922	1,117	1,004	76.5	12.4	11.1
Foreign born	4,273	3,467	549	257	81.1	12.9	6.0
Non-Caucasian	468	356	75	37	76.1	16.0	7.9
1908.							
THE STATE	21,739	17,744	2,317	1,678	81.6	10.7	7.7
White	21,322	17,443	2,238	1,641	81.8	10.5	7.7
Born in California	8,637	7,598	492	547	88.0	5.7	6.3
Born in other states*	8,352	6,363	1,123	866	76.2	13.4	10.4
Foreign born	4,333	3,482	623	228	80.3	14.4	5.3
Non-Caucasian	417	301	79	37	72.2	18.9	8.9

*Includes those of unknown nativity, numbering in the entire State only 92, or 0.4 per cent, in 1909 and 113, or 0.5 per cent, in 1908.

Considering first the non-Caucasian brides, one will observe that among them the per cents single were 76.1 in 1909 and 72.2 in 1908; the widowed, 16.0 and 18.9; and the divorced, 7.9 and 8.9. These per cents differ greatly from the per cents for white brides, the proportion of single brides among the non-Caucasians being relatively small and the proportion widowed rather large. However, the numbers from which the per cents were calculated are themselves too small for the per cents to be very significant, especially as the non-Caucasians in California comprise widely different races, such as the Chinese and Japanese on one hand and negroes and Indians on the other. The 468 non-Caucasian brides in 1909 form only 2.0 per cent of the State total, and the 417 in 1908 form only 1.9 per cent. Of all the single brides, the non-Caucasians were only 1.9 and 1.7 per cent in 1909 and 1908; of the widowed, only 3.3 and 3.4 per cent; and of the divorced, only 1.9 and 2.2 per cent. On account of the small proportion of non-Caucasians among California brides, attention will be directed in the following discussion only to the facts for whites.

Of the 22,449 white brides in 1909, 18,333, or 81.7 per cent, were single; 2,218, or 9.9 per cent, widowed; and 1,898, or 8.4 per cent, divorced. Among the 21,322 in 1908, the single were 17,443, or 81.8 per cent; the widowed 2,238, or 10.5 per cent; and the divorced 1,641, or 7.7 per cent. For 1909 as compared with 1908 there was a drop of 0.1 in the per cent single and of 0.6 in the per cent widowed, offset by a rise of 0.7 in the per cent divorced.

Among the white brides in 1909, 9,133 were born in California, and of these 7,944, or 87.0 per cent, were single; 552, or 6.0 per cent widowed; and 637, or 7.0 per cent, divorced. Among the 8,637 brides in 1908 who were natives of this State, the single were 7,598, or 88.0 per cent; the widowed 492, or 5.7 per cent; and the divorced 547, or 6.3 per cent. The per cent single fell by 1.0, while the per cent widowed and divorced rose by 0.3 and 0.7, respectively.

Including the few of unknown nativity, altogether 9,043 of the brides in 1909 were born elsewhere in the United States than California, and among them the single were 6,922, or 76.5 per cent; the widowed 1,117, or 12.4 per cent; and the divorced 1,004, or 11.1 per cent. Of the 8,352 brides in 1908 who were born in other states, 6,363, or 76.2 per cent, were single: 1,123, or 13.4 per cent, widowed; and 866, or 10.4 per cent, divorced. There was an increase of 0.3 in the per cent single and of 0.7 in the per cent divorced, with a decrease of 1.0 in the per cent widowed.

Of the white brides in 1909, the foreign born numbered 4,273, of whom the single were 3,467, or 81.1 per cent; the widowed 549, or 12.9 per cent; and the divorced 257, or only 6.0 per cent. Of the 4,333 foreign born brides in 1908, 3,482, or 80.3 per cent, were single; 623, or 14.4 per cent, widowed; and only 228, or 5.3 per cent, divorced. There was an increase of 0.8 in the per cent single and of 0.7 in the per cent divorced, counterbalanced by a decrease of 1.5 in the per cent widowed.

Status of White Brides.—The table on the following page shows, by numbers and per cents, the civil status or marital condition of the white brides at the time of marriage—whether single, widowed, or divorced—for the several geographic divisions of the State in both 1909 and 1908.

TABLE 9.—*White Brides classified by Marital Condition, with Per Cents, for Geographic Divisions: 1909 and 1908*

GEOGRAPHIC DIVISION.	White Brides.				Per Cent		
	Total.	Single	Widowed	Divorced	Single.	Widowed	Divorced.
1909.							
THE STATE	22,449	18,333	2,238	1,641	81.8	10.5	7.7
Northern California	2,054	1,663	209	182	81.0	10.2	8.8
Coast counties	978	805	91	82	82.3	9.3	8.4
Interior counties	1,076	858	118	100	79.7	11.0	9.3
Central California	12,921	10,696	1,154	1,071	82.8	8.9	8.3
San Francisco	4,085	3,452	347	286	84.5	8.5	7.0
Other bay counties	3,727	3,014	351	362	80.9	9.4	9.7
Coast counties	1,613	1,335	131	147	82.8	8.1	9.1
Interior counties	3,496	2,895	325	276	82.8	9.3	7.9
Southern California	7,474	5,974	855	645	79.9	11.5	8.6
Los Angeles	4,804	3,908	525	371	81.4	10.9	7.7
Other counties	2,670	2,066	330	274	77.4	12.3	10.3
Northern and Central California	14,975	12,359	1,363	1,253	82.5	9.1	8.4
Coast counties	10,403	8,606	920	877	82.7	8.9	8.4
Interior counties	4,572	3,753	443	376	82.1	9.7	8.2
Metropolitan area	7,812	6,466	698	648	82.8	8.9	8.3
Rural counties	7,163	5,893	665	605	82.3	9.3	8.4
1908.							
THE STATE	21,322	17,443	2,238	1,641	81.8	10.5	7.7
Northern California	2,031	1,682	210	139	82.8	10.3	6.9
Coast counties	1,040	864	109	67	83.1	10.5	6.4
Interior counties	991	818	101	72	82.5	10.2	7.3
Central California	12,653	10,447	1,222	984	82.5	9.7	7.8
San Francisco	3,970	3,370	350	250	84.9	8.8	6.3
Other bay counties	3,650	2,951	370	329	80.9	10.1	9.0
Coast counties	1,621	1,337	155	129	82.5	9.6	7.9
Interior counties	3,412	2,789	347	276	81.7	10.2	8.1
Southern California	6,638	5,314	806	518	80.1	12.1	7.8
Los Angeles	4,309	3,490	508	311	81.0	11.8	7.2
Other counties	2,329	1,824	298	207	78.3	12.8	8.9
Northern and Central California	14,684	12,129	1,432	1,123	82.6	9.8	7.6
Coast counties	10,281	8,522	984	775	82.9	9.6	7.5
Interior counties	4,403	3,607	448	348	81.9	10.2	7.9
Metropolitan area	7,620	6,321	720	579	83.0	9.4	7.6
Rural counties	7,064	5,808	712	544	82.2	10.1	7.7

This table shows that the per cent single among white brides was higher each year for the counties north of Tehachapi than for those to the south. The per cents single in 1909 and 1908, respectively, were 82.5 and 82.6 for the counties north of Tehachapi against 79.9 and 80.1 for those to the south, being 81.0 and 82.8 for Northern California alone and 82.8 and 82.5 for Central California alone. The per cents for the metropolitan area were 82.8 and 83.0 as compared with 82.3 and 82.2 for the rural counties north of Tehachapi. The per cent of single white brides was highest among the geographic divisions each year for San Francisco, 84.5 in 1909 and 84.9 in 1908. For the other bay counties, however, the per cent was only 80.9 each year, or about the lowest outside Southern California. The per cents single for Los Angeles were 81.4 and 81.0 in 1909 and 1908 as compared with only 77.4 and 78.3 for the other counties south of Tehachapi.

The proportion of widows among white brides is higher for Southern California than for Northern or Central California. The per cents widowed for the counties south of Tehachapi were 11.5 and 12.1 in 1909 and 1908 against 9.1 and 9.8 for all to the north, being 10.2 and 10.3 for Northern California and 8.9 and 9.7 for Central California. The per cents for Los Angeles were 10.9 and 11.8, and for the rest of Southern California no less than 12.3 and 12.8 in 1909 and 1908, respectively. The per cents were 8.9 and 9.4 for the metropolitan area as compared with 9.3 and 10.1 for the rural counties of Northern and Central California. For San Francisco the per cents widowed were only 8.5 and 8.8, or about the minimum each year; but for the other bay counties the per cents were considerably higher, 9.4 and 10.1. Of white widows it may therefore be said, as of widowers and widows of all races taken together, that more remarry in rural districts than in urban centers, but that in the metropolitan area more remarry in the suburbs than in the main city.

The proportion of divorcees, as of widows, among white brides is somewhat greater for the counties south of Tehachapi than for those to the north. The per cents divorced in 1909 and 1908, respectively, were 8.6 and 7.8 for Southern California against 8.4 and 7.6 for Northern and Central California together, being 8.8 and 6.9 for Northern California and 8.3 and 7.8 for Central California alone. The per cents were 7.7 and 7.2 for Los Angeles in 1909 and 1908 against no less than 10.3 and 8.9 for the other counties of Southern California. North of Tehachapi, however, the per cents divorced are almost the same for the metropolitan area as for the rural counties, being 8.3 and 8.4, respectively, in 1909 and, similarly, 7.6 and 7.7 in 1908. Generally speaking, divorcees, like widows, remarry more in country districts than in urban centers, while both divorcees and widows, like divorced men and widowers, remarry more in the suburbs of a great city than within the metropolis itself.

Status of White Brides (by Nativity).—The following table shows, for the several geographic divisions in 1909 and 1908, the civil status or marital condition—as single, widowed, or divorced—of the white brides classified by nativity—as born in California, born in other states, or foreign born. For convenience in presentation, the absolute numbers are omitted and only the per cent distributions are given here. The absolute numbers may be found, however, in Tables 15 and 16, pages 184 to 187:

TABLE 10.—*Per Cent Distribution, by Marital Condition, of White Brides Classified by Nativity, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	White Brides.								
	Per Cent Single among those—			Per Cent Widowed among those—			Per Cent Divorced among those—		
	Born in California.	Born in Other States.	Foreign Born.	Born in California.	Born in Other States.	Foreign Born.	Born in California.	Born in Other States.	Foreign Born.
1909.									
THE STATE	87.0	76.5	81.1	6.0	12.4	12.9	7.0	11.1	6.0
Northern California	87.2	69.2	78.4	6.1	15.7	17.3	6.7	15.1	4.3
Coast counties	88.0	68.8	83.6	5.1	15.6	14.0	6.9	15.6	2.4
Interior counties	86.6	69.5	65.7	6.9	15.8	25.4	6.5	14.7	8.9
Central California	86.9	76.4	82.2	5.9	11.8	11.7	7.2	11.8	6.1
San Francisco	88.5	73.8	85.7	5.5	12.8	9.8	6.0	12.4	4.5
Other bay counties	85.5	74.8	78.6	6.7	11.4	13.1	7.8	13.8	8.3
Coast counties	87.0	78.0	77.7	4.9	11.8	11.8	8.1	10.2	10.5
Interior counties	86.5	78.4	81.7	6.1	11.5	13.7	7.4	10.1	4.6
Southern California	87.3	77.6	78.9	6.4	12.4	15.1	6.3	10.0	6.0
Los Angeles	87.5	79.6	80.4	6.7	11.6	13.8	5.8	8.8	5.8
Other counties	86.9	73.8	75.6	6.0	13.8	17.9	7.1	12.4	6.5
Northern and Central California	86.9	75.4	81.9	6.0	12.3	12.1	7.1	12.3	6.0
Coast counties	87.1	74.8	82.4	5.8	12.3	11.3	7.1	12.9	6.3
Interior counties	86.6	76.5	80.1	6.3	12.4	14.8	7.1	11.1	5.1
Metropolitan area	87.0	74.8	83.0	6.1	12.0	11.1	6.9	13.2	5.9
Rural counties	86.9	75.9	80.0	5.8	12.7	13.9	7.3	11.4	6.1
1908.									
THE STATE	88.0	76.2	80.3	5.7	13.4	14.4	6.3	10.4	5.3
Northern California	88.7	74.0	76.0	5.8	15.5	19.1	5.5	10.5	4.9
Coast counties	88.0	76.9	76.5	6.1	14.5	18.4	5.9	8.6	5.1
Interior counties	89.4	71.7	74.7	5.6	16.3	21.1	5.0	12.0	4.2
Central California	87.3	75.4	81.6	5.9	13.0	13.4	6.8	11.6	5.0
San Francisco	88.5	77.9	84.5	5.9	11.7	11.0	5.6	10.4	4.5
Other bay counties	86.6	74.0	77.9	5.6	13.2	15.8	7.8	12.8	6.3
Coast counties	87.5	74.8	79.0	6.2	12.2	15.8	6.3	13.0	5.2
Interior counties	86.4	75.1	81.9	6.2	14.0	13.8	7.4	10.9	4.3
Southern California	90.7	77.2	78.0	4.5	13.6	16.0	4.8	9.2	6.0
Los Angeles	90.4	78.6	80.2	4.4	13.2	14.2	5.2	8.2	5.6
Other counties	91.0	74.4	73.2	4.7	14.3	20.0	4.3	11.3	6.8
Northern and Central California	87.5	75.2	81.2	5.9	13.3	13.8	6.6	11.5	5.0
Coast counties	87.6	75.7	81.2	5.9	12.6	13.6	6.5	11.7	5.2
Interior counties	87.2	74.3	81.1	6.0	14.5	14.6	6.8	11.2	4.3
Metropolitan area	87.6	75.7	81.9	5.7	12.5	12.9	6.7	11.8	5.2
Rural counties	87.4	74.7	79.8	6.1	14.0	15.6	6.5	11.3	4.6

Table 10 shows that the per cents single were no less than 87.0 in 1909 and 88.0 in 1908 among white brides born in California as compared with 81.1 and 80.3 among the foreign born brides and 76.5 and 76.2 among those born in other states. In every part of the State each year the per cent single is highest of all for brides who were born in California. As a rule, too, the per cent single is next highest for foreign born brides and lowest of all for those born elsewhere in the United States than here. Exceptions to this rule appear only for the interior counties of Northern California and the coast counties of Central California in 1909 and for the coast counties of Northern California and the counties of Southern California other than Los Angeles in 1908.

In both 1909 and 1908 the per cent single was much higher for each class of brides in Los Angeles than for those in the other counties of Southern California. However, for the metropolitan area, as compared with the rural counties north of Tehachapi, the per cent single was notably higher each year for the former than for the latter only in the case of foreign born brides. Yet for San Francisco, in contrast with its suburbs, the per cent single was higher each year for the main city than for the suburban counties, not only among brides born abroad, but also among those born in California.

The per cents widowed were no less than 12.9 and 14.4 in 1909 and 1908 among foreign born brides and 12.4 and 13.4 among those born in other states against only 6.0 and 5.7 among white brides born in California. In San Francisco each year, as well as in the coast counties of Northern California in 1909 and in the interior counties of Central California in 1908, the per cent widowed was highest among brides born elsewhere in the United States than California. In the remaining geographic divisions, however, the per cent widowed was highest of all each year among foreign born brides. Without exception, the per cent widowed is decidedly lowest among white brides born in the Golden State.

Generally speaking, the per cent widowed was less among each class by nativity for Los Angeles than for the other counties south of Tehachapi; for the metropolitan area than for the rural counties north of Tehachapi; and for San Francisco than for the other bay counties. Exceptions for some one of the three classes either in 1909 or 1908 are hardly marked enough to affect the general rule that in each element of the population more widows remarry in rural districts than in urban centers, and in the latter more remarry in the suburbs than in the main city.

The per cents divorced were as great as 11.1 in 1909 and 10.4 in 1908 among white brides born in other states, but only 7.0 and 6.3 among those born in California and 6.0 and 5.3 among foreign born brides. Everywhere in California each year, generally speaking, the per cent divorced was greatest among brides born in other states, next among those born in this State, and lowest of all among the foreign born. Slight exceptions to the rule, due to unusually high per cents divorced among foreign born brides, appear in 1909 for the coast counties of Northern and of Central California, as well as for the group of other bay counties adjoining San Francisco, and in 1908 for Los Angeles and the other counties of Southern California.

The per cent divorced was less each year among all classes of brides in Los Angeles than in the rest of Southern California (except as to California born brides in 1908), and was decidedly less without exception in San Francisco than in the adjoining bay counties. For the metropolitan area in comparison with the rural counties north of Tehachapi, however, some baffling contrasts appear, conditions in 1909 being just the reverse of those in 1908 for the per cent divorced among brides born in California and among those born abroad, while for brides born in other states (among whom divorcees are most numerous) the per cents divorced were greater each year for the metropolitan area than for the rural counties. The rule that widows remarry more in rural districts than in urban centers has been found to hold good for each class of white brides, whether born in California, in other states, or in foreign countries. While white divorcees as a whole likewise remarry somewhat more in rural counties than in the metropolitan area, yet the class including most divorcees (*i. e.*, other Americans) is found to remarry more in the urban centers than in rural districts. Divorcees and widows are alike, however, in that for each element of the population—Californian, other American, or foreign—many more remarry in the suburban territory than within the metropolis proper.

Nativity of White Brides.—The following table shows, by numbers and per cents, the nativity of white brides—as born in California, born in other states, or foreign born—for the several geographic divisions in 1909 and 1908:

TABLE 11.—*White Brides classified by Nativity, with Per Cents, for Geographic Divisions. 1909 and 1908.*

GEOGRAPHIC DIVISION.	White Brides.				Per Cent.		
	Total.	Born in California.	Born in Other States.*	Foreign Born.	Born in California.	Born in Other States.	Foreign Born.
1909.							
THE STATE	22,449	9,133	9,043	4,273	40.7	40.3	19.0
Northern California	2,054	1,226	597	231	59.7	29.1	11.2
Coast counties	978	564	250	164	57.7	25.5	16.8
Interior counties	1,076	662	347	67	61.5	32.3	6.2
Central California	12,921	6,252	3,734	2,935	48.4	28.9	22.7
San Francisco	4,085	1,884	924	1,277	46.1	22.6	31.3
Other bay counties	3,727	1,851	1,114	762	49.7	29.9	20.4
Coast counties	1,613	867	450	296	53.7	27.9	18.4
Interior counties	3,496	1,650	1,246	600	47.2	35.6	17.2
Southern California	7,474	1,655	4,712	1,107	22.1	63.1	14.8
Los Angeles	4,804	970	3,079	755	20.2	64.1	15.7
Other counties	2,670	685	1,633	352	25.6	61.2	13.2
Northern and Central California	14,975	7,478	4,331	3,166	49.9	28.9	21.2
Coast counties	10,403	5,166	2,738	2,499	49.7	26.3	24.0
Interior counties	4,572	2,312	1,593	667	50.6	34.8	14.6
Metropolitan area	7,812	3,735	2,038	2,039	47.8	26.1	26.1
Rural counties	7,163	3,743	2,293	1,127	52.3	32.0	15.7
1908.							
THE STATE	21,322	8,637	8,352	4,333	40.5	39.2	20.3
Northern California	2,031	1,184	580	267	58.3	28.6	13.1
Coast counties	1,040	589	255	196	56.6	24.5	18.9
Interior counties	991	595	325	71	60.0	32.8	7.2
Central California	12,653	6,106	3,586	2,961	48.3	28.3	23.4
San Francisco	3,970	1,815	873	1,282	45.7	22.0	32.3
Other bay counties	3,650	1,743	1,098	809	47.7	30.1	22.2
Coast counties	1,621	886	445	290	54.7	27.4	17.9
Interior counties	3,412	1,662	1,170	580	48.7	34.3	17.0
Southern California	6,638	1,347	4,186	1,105	20.3	63.1	16.6
Los Angeles	4,309	771	2,784	754	17.9	64.6	17.5
Other counties	2,329	576	1,402	351	24.7	60.2	15.1
Northern and Central California	14,684	7,290	4,166	3,228	49.6	28.4	22.0
Coast counties	10,281	5,033	2,671	2,577	48.9	26.0	25.1
Interior counties	4,403	2,257	1,495	651	51.3	33.9	14.8
Metropolitan area	7,620	3,558	1,971	2,091	46.7	25.9	27.4
Rural counties	7,064	3,732	2,195	1,137	52.8	31.1	16.1

*Includes those of unknown nativity, numbering in the entire State only 92, or 0.4 per cent, in 1909 and 113, or 0.5 per cent, in 1908.

It appears from this table that of 22,449 white brides in 1909, 9,133, or 40.7 per cent, were born in California; 9,043, or 40.3 per cent, were born in other states, including a few of unknown nativity; and 4,273, or 19.0 per cent, were foreign born. Of the 21,322 white brides in 1908, those born in California were 8,637, or 40.5 per cent; those born in other states, including the few unknown, were 8,352, or 39.2 per cent; and the foreign born were 4,333, or 20.3 per cent. There were increases of 0.2 and 1.1 in the per cents born in California and born in other states, respectively, while there was a decrease of 1.3 in the per cent foreign born.

The proportion of native daughters among the brides is very high for Northern as well as Central California, but very low indeed for Southern California. The per cents born in California in 1909 and 1908, respectively, were 59.7 and 58.3 for Northern California and 48.4 and 48.3 for Central California, or 49.9 and 49.6 for both together, against as little as 22.1 and 20.3 for Southern California. The per cents were only 20.2 and 17.9 for Los Angeles and 25.6 and 24.7 for the other counties south of Tehachapi. North of Tehachapi, likewise, the per cents were less for the metropolitan area (47.8 and 46.7) than for the rural counties (52.3 and 52.8), and also less for San Francisco (46.1 and 45.7) than for the other bay counties (49.7 and 47.7).

The proportion of white brides born elsewhere in the United States than California is very high indeed for the counties south of Tehachapi, but is quite low for those to the north. The per cent of brides born in other states was 63.1 each year for Southern California, being no less than 64.1 in 1909 and 64.6 in 1908 for Los Angeles and 61.2 and 60.2, respectively, for the other counties. On the other hand, the corresponding per cents for the counties north of Tehachapi were only 28.9 and 28.4, being 29.1 and 28.6 for Northern California and 28.9 and 28.3 for Central California. The per cents born in other states were 26.1 and 25.9 for the metropolitan area as compared with 32.0 and 31.1 for the rural counties. For San Francisco the per cents were only 22.6 and 22.0 against 29.9 and 30.1 for the other bay counties.

The proportion of foreign born brides is notably high only for Central California, especially in San Francisco and its suburbs. The per cents foreign born among white brides in 1909 and 1908, respectively, were 22.7 and 23.4 for Central California as compared with only 14.8 and 16.6 for Southern California and 11.2 and 13.1 for Northern California. The per cents for the counties north of Tehachapi were 21.2 and 22.0, being no less than 26.1 and 27.4 for the metropolitan area, but merely 15.7 and 16.1 for the rural counties. The per cents foreign born were as great as 31.3 and 32.3 for San Francisco alone as compared with 20.4 and 22.2 for the other counties on the bay. Similarly, the per cents were greater for Los Angeles (15.7 and 17.5) than for the other counties of Southern California (13.2 and 15.1).

Nativity of White Brides (by States).—The following table shows for the several geographic divisions in 1909 and 1908, the nativity—as born in California, born in other states, or foreign born—of white brides classified by civil status or marital condition—as single, widowed, or divorced. For convenience in presentation, only the per cent distributions are given here, though the absolute numbers appear in Tables 17 and 18, pages 188 to 190:

TABLE 12.—*Per Cent Distribution, by Nativity, of White Brides classified by Marital Condition, for Geographic Divisions: 1909 and 1908.*

GEOGRAPHIC DIVISION.	White Brides.								
	Per Cent Born in California among the—			Per Cent Born in Other States among the—			Per Cent Foreign Born among the—		
	Single.	Widowed.	Divorced.	Single.	Widowed	Divorced	Single	Widowed.	Divorced.
1909.									
THE STATE	43.3	24.9	33.6	37.8	50.4	52.9	18.9	24.7	13.5
Northern California	64.3	35.9	45.1	24.8	45.0	49.4	10.9	19.1	5.5
Coast counties	61.6	31.9	47.6	21.4	41.8	47.5	17.0	25.3	4.9
Interior counties	66.8	39.0	43.0	28.1	46.6	51.0	5.1	14.4	6.0
Central California	50.8	32.2	42.0	26.6	38.2	41.2	22.6	29.6	16.8
San Francisco	48.3	30.0	39.5	20.0	34.0	40.2	31.7	36.0	20.3
Other bay counties	52.5	35.3	40.1	27.6	36.2	42.5	19.9	28.5	17.4
Coast counties	56.5	32.8	47.6	26.3	40.5	31.3	17.2	26.7	21.1
Interior counties	49.4	30.8	44.2	33.7	44.0	45.7	16.9	25.2	10.1
Southern California	24.2	12.4	16.3	61.2	68.1	73.3	14.6	19.1	10.4
Los Angeles	21.7	12.4	15.1	62.8	67.8	73.0	15.5	19.8	11.9
Other counties	28.8	12.4	17.9	58.3	68.5	73.7	12.9	19.1	8.4
Northern and Central California	52.6	32.7	42.4	26.4	39.3	42.4	21.0	28.0	15.2
Coast counties	52.3	32.6	41.8	23.8	36.6	40.4	23.9	30.8	17.8
Interior counties	53.3	33.0	43.9	32.5	44.7	47.1	14.2	22.3	9.0
Metropolitan area	50.2	32.7	39.8	23.6	35.1	41.5	26.2	32.2	18.7
Rural counties	55.2	32.8	45.3	29.5	43.6	43.3	15.3	23.6	11.4
1908.									
THE STATE	43.5	22.0	33.3	36.5	50.2	52.8	20.0	27.8	13.9
Northern California	62.4	32.8	46.8	25.5	42.9	43.9	12.1	24.3	9.3
Coast counties	59.9	33.0	52.3	22.7	34.0	32.8	17.4	33.0	14.9
Interior counties	65.0	32.7	41.7	28.5	52.5	54.2	6.5	14.8	4.1
Central California	51.0	29.6	42.4	25.9	38.1	42.5	23.1	32.3	15.1
San Francisco	47.7	30.6	40.4	20.2	29.1	36.4	32.1	40.3	23.2
Other bay counties	51.1	26.2	41.6	27.5	39.2	42.9	21.4	34.6	15.5
Coast counties	58.0	35.5	43.4	24.9	34.8	45.0	17.1	29.7	11.6
Interior counties	51.5	29.7	44.6	31.5	47.3	46.4	17.0	23.0	9.0
Southern California	23.0	7.6	12.6	60.8	70.5	74.7	16.2	21.9	12.7
Los Angeles	20.0	6.7	12.9	62.7	72.2	73.6	17.3	21.1	13.5
Other counties	28.7	9.1	12.1	57.2	67.4	76.3	14.1	23.5	11.6
Northern and Central California	52.6	30.1	42.9	25.8	38.8	42.7	21.6	31.1	14.4
Coast counties	51.7	30.0	42.4	23.7	34.3	40.3	24.6	35.7	17.3
Interior counties	54.6	30.4	44.0	30.8	48.4	48.0	14.6	21.2	8.0
Metropolitan area	49.3	28.3	41.1	23.6	34.3	40.1	27.1	37.4	18.8
Rural counties	56.2	31.9	44.9	28.2	43.2	45.4	15.6	24.9	9.7

It appears from Table 12 that in 1909 and 1908, respectively, the per cents born in California were 43.3 and 43.5 among the single brides; 33.6 and 33.3 among the divorced; and 24.9 and 22.0 among the widowed. In all parts of the State both years the native daughters formed the bulk of the single brides and a large proportion of the divorced, but a small proportion of the widowed brides.

The per cents born in the Golden State among the single, widowed, and divorced brides were very much less for Southern California each year than for Northern or Central California. Generally speaking, the per cents born in California were also less for Los Angeles in all cases than for the other counties south of Tehachapi, the only marked exception being for divorced brides in 1908. Without exception, the per cents born in this State were likewise less for the metropolitan area than for the rural counties north of Tehachapi. Except that in 1908 alone the per cent born in California was greater among the widowed brides in San Francisco than in the other bay counties, the rule is also that the proportion of native daughters among each class of brides is less for the metropolis proper than for the surrounding suburbs.

In 1909 and 1908, respectively, the per cents born in other states than California were 52.9 and 52.8 among the divorced and 50.4 and 50.2 among the widowed as compared with 37.8 and 36.5 among the single white brides. In the coast counties of Central California in 1909 and in the coast counties of Northern California and the interior counties of Central California in 1908 alone the per cent born in other states was greater among widowed than divorced brides. But for every other geographic division each year a larger proportion of the divorcees than of the widows remarrying were born elsewhere in the United States than California. In Los Angeles the per cents born in other states were no less than 73.0 and 73.6 among the divorced brides in 1909 and 1908, and 67.8 and 72.2 among the widowed; for the other counties south of Tehachapi the per cents for divorcees were as great as 73.7 and 76.3, and for widows were 68.5 and 67.4.

The per cents born in other states among single, widowed, and divorced brides were much greater each year for Southern California than for Northern or Central California. North of Tehachapi the per cents born in other states were less among brides of each class in the metropolitan area than in the rural counties, and were also less in San Francisco in all cases than in the other bay counties. The per cents born elsewhere in the United States were greater for Los Angeles than for the rest of Southern California among single brides in both 1909 and 1908, but were less each year for Los Angeles than for the other counties among the divorced, while among widowed brides Los Angeles had the smaller per cent in 1909, but the greater in 1908.

The per cents foreign born in 1909 and 1908, respectively, were 24.7 and 27.8 among the widowed as compared with 18.9 and 20.0 among the single and only 13.5 and 13.9 among the divorced. In the interior counties of Northern California and the coast counties of Central California for 1909 alone, the per cents foreign born were somewhat greater among the divorced than among the single brides, being greatest, as usual, among the widowed. As a rule, though, the per cent of foreign born brides was highest in every instance each year among the widowed, next highest among the single, and lowest of all among the divorced.

The per cents foreign born were higher in all cases for San Francisco than for the other bay counties, and likewise higher for the metropolitan area than for the rural counties north of Tehachapi. In 1908 alone the per cent foreign born among widowed brides was somewhat less for Los Angeles than for the other counties south of Tehachapi; but, in general, the per cent foreign born was higher among all classes of brides in Los Angeles than in the rest of Southern California.

Of all the single brides in 1909 and 1908, the per cents born in California were 43.3 and 43.5; the per cents born in other states were 37.8 and 36.5; and the per cents foreign born were only 18.9 and 20.0. That is, California girls form the bulk of the single brides, and those born in other states form a considerable proportion, while comparatively few single brides in this State were foreign born.

Of the widowed remarrying in 1909 and 1908, the per cents born elsewhere in the United States than California were 50.4 and 50.2; the per cents foreign born were 24.7 and 27.8; and the per cents born in California were 24.9 and 22.0. As compared with the per cent distributions of all white brides taken together, the per cents for the widowed are very high for those born outside California, whether in other states or foreign countries, while the per cents are relatively very low for the widowed brides born in the Golden State.

Of all the divorcees remarrying in 1909 and 1908, the per cents born in other states were as great as 52.9 and 52.8; the per cents born in California were 33.6 and 33.3; and the per cents foreign born were only 13.5 and 13.9. In short, American women born in other states comprise the great bulk of the divorced brides in California, and while the native daughters form a considerable proportion of the divorcees remarrying, the foreign born constitute a very small proportion indeed.

Conclusion.—That the native daughters should constitute the bulk of the single brides necessarily follows from the fact that most of the marriageable young women in California were born and reared in the glorious climate of this Golden State. That the great bulk of the widowed brides were born outside California, and only a comparatively small proportion were born within the Golden State, would naturally be expected from the fact that very few women born in California are old enough to have been married and become widows, so that nearly all the widows remarrying here must necessarily have come from other states or foreign countries. The very great disparity between the proportions for the American born and the foreign born among divorced brides is evidently due to a difference in the attitude toward divorce and remarriage between the American and foreign elements of the white population.

TABLE 13.—*Marriages classified by Number in Order and*

		Number of Marriage.				Groom.			
COUNTY.	Total Marriages.	First of Both Parties.	First of Groom Only	First of Bride Only.	Second or Over of Both.	Single.	Widowed.	Divorced.	Single.
CALIFORNIA	22,917	16,863	2,409	1,826	1,819	19,272	2,072	1,573	18,689
Alameda	2,469	1,844	239	197	189	2,083	211	175	2,041
Alpine	1	1	--------	--------	--------	1	--------	--------	1
Amador	57	47	4	5	1	51	4	2	52
Butte	193	149	26	2	16	175	10	8	151
Calaveras	30	24	3	--------	3	27	2	1	24
Colusa	25	24	1	--------	--------	25	--------	--------	24
Contra Costa	164	116	25	14	9	141	13	10	130
Del Norte	20	8	5	1	6	13	3	4	9
El Dorado	43	31	8	2	2	39	2	2	33
Fresno	673	508	58	65	42	566	63	44	573
Glenn	34	27	2	3	2	29	5	--------	30
Humboldt	270	230	18	13	9	248	14	8	243
Imperial	77	52	8	8	9	60	8	9	60
Inyo	37	32	1	3	1	33	--------	4	35
Kern	258	190	34	15	19	224	18	16	205
Kings	199	163	13	12	11	176	17	6	175
Lake	33	27	4	--------	2	31	1	1	27
Lassen	30	27	2	--------	1	29	--------	1	27
Los Angeles	4,948	3,587	492	422	447	4,079	527	342	4,009
Madera	57	41	7	3	6	48	5	4	44
Marin	852	560	114	87	91	674	77	101	647
Mariposa	12	9	3	--------	--------	12	--------	--------	9
Mendocino	155	118	16	9	12	134	12	9	127
Merced	88	66	13	6	3	79	3	6	72
Modoc	44	36	5	1	2	41	1	2	37
Mono	5	4	1	--------	--------	5	--------	--------	4
Monterey	172	132	19	14	7	151	8	13	146
Napa	140	98	18	15	9	116	12	12	113
Nevada	95	70	13	5	7	83	8	4	75
Orange	871	559	124	86	102	683	79	109	645
Placer	78	51	5	11	11	56	13	9	62
Plumas	25	18	5	1	1	23	1	1	19
Riverside	297	215	24	29	29	239	37	21	244
Sacramento	853	617	105	63	68	722	65	66	680
San Benito	49	40	4	5	--------	44	2	3	45
San Bernardino	492	343	50	46	53	393	56	43	389
San Diego	624	404	73	69	78	477	97	50	473
San Francisco	4,214	3,303	406	272	233	3,709	293	212	3,575
San Joaquin	522	380	63	36	43	443	43	36	416
San Luis Obispo	206	155	20	17	14	175	17	14	172
San Mateo	305	207	38	27	33	245	28	32	234
Santa Barbara	218	164	21	16	17	185	22	11	180
Santa Clara	941	687	90	86	78	777	97	67	773
Santa Cruz	258	183	25	27	23	208	32	18	210
Shasta	170	110	22	16	22	132	23	15	126
Sierra	16	12	2	1	1	14	1	1	13
Siskiyou	156	107	25	15	9	132	17	7	122
Solano	152	116	13	12	11	129	13	10	128
Sonoma	363	262	46	27	28	308	33	22	289
Stanislaus	131	99	16	8	8	115	10	6	107
Sutter	30	26	2	1	1	28	2	--------	27
Tehama	106	75	12	9	10	87	11	8	84
Trinity	8	3	4	1	--------	7	1	--------	4
Tulare	276	222	23	18	13	245	24	7	240
Tuolumne	61	46	5	6	4	51	7	3	52
Ventura	135	101	14	11	9	115	13	7	112
Yolo	89	71	6	4	8	77	6	6	75
Yuba	90	66	14	4	6	80	5	5	70

Marital Condition of Parties, with Per Cents, for Counties: 1909.

Bride.		Per Cent of Marriages.				Per Cent of Grooms.			Per Cent of Brides.		
Widowed.	Divorced.	First of Both Parties.	First of Groom Only.	First of Bride Only.	Second or Over of Both.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.
2,293	1,935	73.6	10.5	8.0	7.9	84.1	9.0	6.9	81.6	10.0	8.4
219	209	74.7	9.7	8.0	7.6	84.4	8.5	7.1	82.7	8.9	8.4
--------	--------	100.0	--------	--------	--------	100.0	--------	--------	100.0	--------	--------
3	2	82.5	7.0	8.8	1.7	89.5	7.0	3.5	91.2	5.3	3.5
23	19	77.2	13.5	1.0	8.3	90.7	5.2	4.1	78.2	11.9	9.9
4	2	80.0	10.0	--------	10.0	90.0	6.7	3.3	80.0	13.3	6.7
--------	1	96.0	4.0	--------	--------	100.0	--------	--------	96.0	--------	4.0
18	16	70.7	15.3	8.5	5.5	86.0	7.9	6.1	79.3	11.0	9.7
8	3	40.0	25.0	5.0	30.0	65.0	15.0	20.0	45.0	40.0	15.0
3	7	72.1	18.6	4.7	4.6	90.7	4.7	4.6	76.7	7.0	16.3
50	50	75.5	8.6	9.7	6.2	84.1	9.4	6.5	85.2	7.4	7.4
3	1	79.4	5.9	8.8	5.9	85.3	14.7	--------	88.2	8.8	3.0
16	11	85.2	6.7	4.8	3.3	91.8	5.2	3.0	90.0	5.9	4.1
11	6	67.5	10.4	10.4	11.7	77.9	10.4	11.7	77.9	14.3	7.8
--------	2	86.5	2.7	8.1	2.7	89.2	--------	10.8	94.6	--------	5.4
26	27	73.6	13.2	5.8	7.4	86.8	7.0	6.2	79.4	10.1	10.5
15	9	81.9	6.6	6.0	5.5	88.5	8.5	3.0	88.0	7.5	4.5
4	2	81.8	12.1	--------	6.1	94.0	3.0	3.0	81.8	12.1	6.1
1	2	90.0	6.7	--------	3.3	96.7	--------	3.3	90.0	3.3	6.7
553	386	72.5	10.0	8.5	9.0	82.4	10.7	6.9	81.0	11.2	7.8
5	8	71.9	12.3	5.3	10.5	84.2	8.8	7.0	77.2	8.8	14.0
93	112	65.7	13.4	10.2	10.7	79.1	9.0	11.9	75.9	10.9	13.2
2	1	75.0	25.0	--------	--------	100.0	--------	--------	75.0	16.7	8.3
16	12	76.1	10.3	5.8	7.8	86.5	7.7	5.8	81.9	10.3	7.8
10	6	75.0	14.8	6.8	3.4	89.8	3.4	6.8	81.8	11.4	6.8
3	4	81.8	11.4	2.3	4.5	93.2	2.3	4.5	84.1	6.8	9.1
1	--------	80.0	20.0	--------	--------	100.0	--------	--------	80.0	20.0	--------
7	19	76.8	11.0	8.1	4.1	87.8	4.6	7.6	84.9	4.1	11.0
14	13	70.0	12.9	10.7	6.4	82.8	8.6	8.6	80.7	10.0	9.3
11	9	73.7	13.7	5.2	7.4	87.4	8.4	4.2	78.9	11.6	9.5
103	123	64.2	14.2	9.9	11.7	78.4	9.1	12.5	74.1	11.8	14.1
7	9	65.4	6.4	14.1	14.1	71.8	16.7	11.5	79.5	9.0	11.5
3	3	72.0	20.0	4.0	4.0	92.0	4.0	4.0	76.0	12.0	12.0
26	27	72.4	8.1	9.8	9.7	80.5	12.4	7.1	82.2	8.7	9.1
90	83	72.3	12.3	7.4	8.0	84.7	7.6	7.7	79.7	10.6	9.7
1	3	81.6	8.2	10.2	--------	89.8	4.1	6.1	91.8	2.1	6.1
65	38	69.7	10.2	9.3	10.8	79.9	11.4	8.7	79.1	13.2	7.7
102	49	64.7	11.7	11.1	12.5	76.4	15.6	8.0	75.8	16.3	7.9
351	288	78.4	9.6	6.5	5.5	88.0	7.0	5.0	84.9	8.3	6.8
59	47	72.8	12.1	6.9	8.2	84.9	8.2	6.9	79.7	11.3	9.0
16	18	75.2	9.7	8.3	6.8	85.0	8.2	6.8	83.5	7.8	8.7
34	37	67.9	12.5	8.8	10.8	80.3	9.2	10.5	76.7	11.2	12.1
13	25	75.2	9.6	7.4	7.8	84.9	10.1	5.0	82.6	5.9	11.5
81	87	73.0	9.6	9.1	8.3	82.6	10.3	7.1	82.2	8.6	9.2
28	20	70.9	9.7	10.5	8.9	80.6	12.4	7.0	81.4	10.9	7.7
28	16	64.7	13.0	9.4	12.9	77.7	13.5	8.8	74.1	16.5	9.4
2	1	75.0	12.5	6.3	6.2	87.5	6.3	6.2	81.3	12.5	6.2
16	18	68.6	16.0	9.6	5.8	84.6	10.9	4.5	78.2	10.3	11.5
14	10	76.3	8.6	7.9	7.2	84.9	8.5	6.6	84.2	9.2	6.6
35	39	72.2	12.7	7.4	7.7	84.8	9.1	6.1	79.6	9.6	10.8
15	9	75.6	12.2	6.1	6.1	87.8	7.6	4.6	81.7	11.4	6.9
1	2	86.7	6.7	3.3	3.3	93.3	6.7	--------	90.0	3.3	6.7
15	7	70.8	11.3	8.5	9.4	82.1	10.4	7.5	79.2	14.2	6.6
1	3	37.5	50.0	12.5	--------	87.5	12.5	--------	50.0	12.5	37.5
26	10	80.5	8.3	6.5	4.7	88.8	8.7	2.5	87.0	9.4	3.6
7	2	75.4	8.2	9.8	6.6	83.6	11.5	4.9	85.2	11.5	3.3
14	9	74.8	10.4	8.1	6.7	85.2	9.6	5.2	82.9	10.4	6.7
10	4	79.8	6.7	4.5	9.0	86.5	6.8	6.7	84.3	11.2	4.5
11	9	73.3	15.6	4.4	6.7	88.9	5.6	5.5	77.8	12.2	10.0

TABLE 14.—*Marriages classified by Number in Order and*

COUNTY.	Total Marriages.	Number of Marriage.				Groom.			
		First of Both Parties.	First of Groom Only.	First of Bride Only.	Second or Over of Both	Single.	Widowed	Divorced	Single.
CALIFORNIA	21,739	16,120	2,305	1,624	1,690	18,425	2,026	1,288	17,744
Alameda	2,556	1,899	249	215	193	2,148	235	173	2,114
Alpine	-------	-------	-------	-------	-------	-------	-------	-------	-------
Amador	53	44	6	-------	3	50	3	-------	44
Butte	198	153	20	9	16	173	14	11	162
Calaveras	37	27	5	4	1	32	3	2	31
Colusa	29	22	2	1	4	24	3	2	23
Contra Costa	174	138	19	7	10	157	10	7	145
Del Norte	28	20	6	2	-------	26	-------	2	22
El Dorado	46	32	6	4	4	38	6	2	36
Fresno	696	543	54	55	44	597	61	38	598
Glenn	24	20	1	2	1	21	3	-------	22
Humboldt	273	216	25	9	23	241	20	12	225
Imperial	63	49	5	3	6	54	6	3	52
Inyo	29	18	5	2	4	23	3	3	20
Kern	212	162	19	10	21	181	23	8	172
Kings	145	109	23	9	4	132	9	4	118
Lake	44	37	2	2	3	39	2	3	39
Lassen	37	33	1	2	1	34	3	-------	35
Los Angeles	4,451	3,203	444	379	425	3,647	532	272	3,582
Madera	75	55	11	1	8	66	6	3	56
Marin	710	458	120	68	64	578	61	71	526
Mariposa	17	13	2	1	1	15	1	1	14
Mendocino	139	109	12	8	10	121	12	6	117
Merced	87	67	5	9	6	72	9	6	76
Modoc	40	34	4	1	1	38	2	-------	35
Mono	4	3	-------	1	-------	3	1	-------	4
Monterey	177	123	24	12	18	147	20	10	135
Napa	162	120	17	13	12	137	17	8	133
Nevada	111	92	9	5	5	101	7	3	97
Orange	620	400	88	57	75	488	69	63	457
Placer	71	56	7	3	5	63	8	-------	59
Plumas	13	9	3	1	-------	12	1	-------	10
Riverside	315	234	33	23	25	267	31	17	257
Sacramento	863	623	112	53	75	735	73	55	676
San Benito	59	44	7	5	3	51	3	5	49
San Bernardino	425	306	42	30	47	348	42	35	336
San Diego	578	373	75	60	70	448	88	42	433
San Francisco	4,035	3,165	414	264	192	3,579	273	183	3,429
San Joaquin	521	391	58	32	40	449	41	31	423
San Luis Obispo	211	171	13	13	14	184	15	12	184
San Mateo	281	190	46	26	19	236	25	20	216
Santa Barbara	216	168	15	17	16	183	22	11	185
Santa Clara	949	708	84	75	82	792	91	66	783
Santa Cruz	241	179	29	16	17	208	24	9	195
Shasta	128	92	19	7	10	111	12	5	99
Sierra	7	7	-------	-------	-------	7	-------	-------	7
Siskiyou	149	113	19	8	9	132	10	7	121
Solano	159	120	13	14	12	133	15	11	134
Sonoma	398	308	34	25	31	342	34	22	333
Stanislaus	137	109	10	11	7	119	10	8	120
Sutter	25	18	5	2	-------	23	1	1	20
Tehama	96	71	13	5	7	84	11	1	76
Trinity	8	6	1	1	-------	7	-------	1	7
Tulare	227	174	25	7	21	199	18	10	181
Tuolumne	56	40	6	2	8	46	6	4	42
Ventura	152	111	15	19	7	126	16	10	130
Yolo	105	83	11	7	4	94	7	4	90
Yuba	77	52	12	7	6	64	8	5	59

Marital Condition of Parties, with Per Cents, for Counties: 1908.

Bride.		Per Cent of Marriages.				Per Cent of Grooms.			Per Cent of Brides.		
Widowed.	Divorced.	First of Both Parties.	First of Groom Only.	First of Bride Only.	Second or Over of Both.	Single.	Widowed.	Divorced	Single.	Widowed.	Divorced.
2,317	1,678	74.1	10.6	7.5	7.8	84.8	9.3	5.9	81.6	10.7	7.7
244	198	74.3	9.7	8.4	7.6	84.0	9.2	6.8	82.7	9.6	7.7
4	5	83.0	11.3	--------	5.7	94.3	5.7	--------	83.0	7.6	9.4
21	15	77.3	10.1	4.5	8.1	87.4	7.1	5.5	81.8	10.6	7.6
3	3	73.0	13.5	10.8	2.7	86.5	8.1	5.4	83.8	8.1	8.1
3	3	75.9	6.9	3.4	13.8	82.8	10.3	6.9	79.3	10.4	10.3
16	13	79.3	10.9	4.0	5.8	90.2	5.8	4.0	83.3	9.2	7.5
3	3	71.4	21.4	7.2	--------	92.9	--------	7.1	78.6	10.7	10.7
5	5	69.6	13.0	8.7	8.7	82.6	13.0	4.4	78.2	10.9	10.9
61	37	78.0	7.8	7.9	6.3	85.8	8.8	5.4	85.9	8.8	5.3
2	--------	83.3	4.2	8.3	4.2	87.5	12.5	--------	91.7	8.3	--------
30	18	79.1	9.2	3.3	8.4	88.3	7.3	4.4	82.4	11.0	6.6
7	4	77.8	7.9	4.8	9.5	85.7	9.5	4.8	82.5	11.1	6.4
4	5	62.1	17.2	6.9	13.8	79.3	10.4	10.3	69.0	17.2	13.8
25	15	76.4	9.0	4.7	9.9	85.4	10.8	3.8	81.1	11.8	7.1
10	17	75.2	15.9	6.2	2.7	91.0	6.2	2.8	81.4	6.9	11.7
3	2	84.1	4.6	4.5	6.8	88.6	4.6	6.8	88.6	6.8	4.6
--------	2	89.2	2.7	5.4	2.7	91.9	8.1	--------	94.6	--------	5.4
541	328	72.0	10.0	8.5	9.5	81.9	12.0	6.1	80.5	12.1	7.4
8	11	73.3	14.7	1.3	10.7	88.0	8.0	4.0	74.6	10.7	14.7
89	95	64.5	16.9	9.6	9.0	81.4	8.6	10.0	74.1	12.5	13.4
3	--------	76.5	11.7	5.9	5.9	88.2	5.9	5.9	82.4	17.6	--------
12	10	78.4	8.6	5.8	7.2	87.1	8.6	4.3	84.2	8.6	7.2
8	3	77.0	5.8	10.3	6.9	82.8	10.3	6.9	87.4	9.2	3.4
3	2	85.0	10.0	2.5	2.5	95.0	5.0	--------	87.5	7.5	5.0
--------	--------	75.0	--------	25.0	--------	75.0	25.0	--------	100.0	--------	--------
20	22	69.5	13.5	6.8	10.2	83.1	11.3	5.6	76.3	11.3	12.4
21	8	74.1	10.5	8.0	7.4	84.6	10.5	4.9	82.1	13.0	4.9
12	2	82.9	8.1	4.5	4.5	91.0	6.3	2.7	87.4	10.8	1.8
87	76	64.5	14.2	9.2	12.1	78.7	11.1	10.2	73.7	14.0	12.3
7	5	78.9	9.9	4.2	7.0	88.7	11.3	--------	83.1	9.9	7.0
1	2	69.2	23.1	7.7	--------	92.3	7.7	--------	76.9	7.7	15.4
35	23	74.3	10.5	7.3	7.9	84.8	9.8	5.4	81.6	11.1	7.3
96	91	72.2	13.0	6.1	8.7	85.2	8.4	6.4	78.3	11.1	10.6
7	3	74.6	11.8	8.5	5.1	86.4	5.1	8.5	83.0	11.9	5.1
57	32	72.0	9.9	7.0	11.1	81.9	9.9	8.2	79.1	13.4	7.5
88	57	64.5	13.0	10.4	12.1	77.5	15.2	7.3	74.9	15.2	9.9
355	251	78.4	10.3	6.5	4.8	88.7	6.8	4.5	85.0	8.8	6.2
61	37	75.1	11.1	6.1	7.7	86.2	7.9	5.9	81.2	11.7	7.1
19	8	81.0	6.2	6.2	6.6	87.2	7.1	5.7	87.2	9.0	3.8
34	31	67.6	16.4	9.2	6.8	84.0	8.9	7.1	76.9	12.1	11.0
21	10	77.8	6.9	7.9	7.4	84.7	10.2	5.1	85.7	9.7	4.6
82	84	74.6	8.9	7.9	8.6	83.5	9.6	6.9	82.5	8.6	8.9
32	14	74.3	12.0	6.6	7.1	86.3	10.0	3.7	80.9	13.3	5.8
16	13	71.9	14.8	5.5	7.8	86.7	9.4	3.9	77.3	12.5	10.2
--------	--------	100.0	--------	--------	--------	100.0	--------	--------	100.0	--------	--------
13	15	75.8	12.8	5.4	6.0	88.6	6.7	4.7	81.2	8.7	10.1
16	9	75.5	8.1	8.8	7.6	83.7	9.4	6.9	84.3	10.1	5.6
39	26	77.4	8.5	6.3	7.8	85.9	8.6	5.5	83.7	9.8	6.5
9	8	79.6	7.3	8.0	5.1	86.9	7.3	5.8	87.6	6.6	5.8
4	1	72.0	20.0	8.0	--------	92.0	4.0	4.0	80.0	16.0	4.0
14	6	74.0	13.5	5.2	7.3	87.5	11.5	1.0	79.2	14.6	6.2
1	--------	75.0	12.5	12.5	--------	87.5	--------	12.5	87.5	12.5	--------
23	23	76.7	11.0	3.1	9.2	87.7	7.9	4.4	79.8	10.1	10.1
11	3	71.4	10.7	3.6	14.3	82.1	10.7	7.2	75.0	19.6	5.4
13	9	73.0	9.9	12.5	4.6	82.9	10.5	6.6	85.5	8.6	5.9
8	7	79.0	10.5	6.7	3.8	89.5	6.7	3.8	85.7	7.6	6.7
10	8	67.5	15.6	9.1	7.8	83.1	10.4	6.5	76.6	13.0	10.4

TABLE 14.—*Marriages classified by Number in Order and*

COUNTY.	Total Marriages.	Number of Marriage.				Groom.			
		First of Both Parties	First of Groom Only.	First of Bride Only.	Second or Over of Both	Single.	Widowed	Divorced	Single.
CALIFORNIA	21,739	16,120	2,305	1,624	1,690	18,425	2,026	1,288	17,744
Alameda	2,556	1,899	249	215	193	2,148	235	173	2,114
Alpine	--------	--------	--------	--------	--------	--------	--------	--------	--------
Amador	53	44	6	--------	3	50	3	--------	44
Butte	198	153	20	9	16	173	14	11	162
Calaveras	37	27	5	4	1	32	3	2	31
Colusa	29	22	2	1	4	24	3	2	23
Contra Costa	174	138	19	7	10	157	10	7	145
Del Norte	28	20	6	2	--------	26	--------	2	22
El Dorado	46	32	6	4	4	38	6	2	36
Fresno	696	543	54	55	44	597	61	38	598
Glenn	24	20	1	2	1	21	3	--------	22
Humboldt	273	216	25	9	23	241	20	12	225
Imperial	63	49	5	3	6	54	6	3	52
Inyo	29	18	5	2	4	23	3	3	20
Kern	212	162	19	10	21	181	23	8	172
Kings	145	109	23	9	4	132	9	4	118
Lake	44	37	2	2	3	39	2	3	39
Lassen	37	33	1	2	1	34	3	--------	35
Los Angeles	4,451	3,203	444	379	425	3,647	532	272	3,582
Madera	75	55	11	1	8	66	6	3	56
Marin	710	458	120	68	64	578	61	71	526
Mariposa	17	13	2	1	1	15	1	1	14
Mendocino	139	109	12	8	10	121	12	6	117
Merced	87	67	5	9	6	72	9	6	76
Modoc	40	34	4	1	1	38	2	--------	35
Mono	4	3	--------	1	--------	3	1	--------	4
Monterey	177	123	24	12	18	147	20	10	135
Napa	162	120	17	13	12	137	17	8	133
Nevada	111	92	9	5	5	101	7	3	97
Orange	620	400	88	57	75	488	69	63	457
Placer	71	56	7	3	5	63	8	--------	59
Plumas	13	9	3	1	--------	12	1	--------	10
Riverside	315	234	33	23	25	267	31	17	257
Sacramento	863	623	112	53	75	735	73	55	676
San Benito	59	44	7	5	3	51	3	5	49
San Bernardino	425	306	42	30	47	348	42	35	336
San Diego	578	373	75	60	70	448	88	42	433
San Francisco	4,035	3,165	414	264	192	3,579	273	183	3,429
San Joaquin	521	391	58	32	40	449	41	31	423
San Luis Obispo	211	171	13	13	14	184	15	12	184
San Mateo	281	190	46	26	19	236	25	20	216
Santa Barbara	216	168	15	17	16	183	22	11	185
Santa Clara	949	708	84	75	82	792	91	66	783
Santa Cruz	241	179	29	16	17	208	24	9	195
Shasta	128	92	19	7	10	111	12	5	99
Sierra	7	7	--------	--------	--------	7	--------	--------	7
Siskiyou	149	113	19	8	9	132	10	7	121
Solano	159	120	13	14	12	133	15	11	134
Sonoma	398	308	34	25	31	342	34	22	333
Stanislaus	137	109	10	11	7	119	10	8	120
Sutter	25	18	5	2	--------	23	1	1	20
Tehama	96	71	13	5	7	84	11	1	76
Trinity	8	6	1	1	--------	7	--------	1	7
Tulare	227	174	25	7	21	199	18	10	181
Tuolumne	56	40	6	2	8	46	6	4	42
Ventura	152	111	15	19	7	126	16	10	130
Yolo	105	83	11	7	4	94	7	4	90
Yuba	77	52	12	7	6	64	8	5	59

Marital Condition of Parties, with Per Cents, for Counties: 1908.

Bride.		Per Cent of Marriages.				Per Cent of Grooms.			Per Cent of Brides.		
Widowed.	Divorced.	First of Both Parties.	First of Groom Only.	First of Bride Only.	Second or Over of Both.	Single.	Widowed.	Divorced	Single.	Widowed.	Divorced.
2,317	1,678	74.1	10.6	7.5	7.8	84.8	9.3	5.9	81.6	10.7	7.7
244	198	74.3	9.7	8.4	7.6	84.0	9.2	6.8	82.7	9.6	7.7
4	5	83.0	11.3	--------	5.7	94.3	5.7	--------	83.0	7.6	9.4
21	15	77.3	10.1	4.5	8.1	87.4	7.1	5.5	81.8	10.6	7.6
3	3	73.0	13.5	10.8	2.7	86.5	8.1	5.4	83.8	8.1	8.1
3	3	75.9	6.9	3.4	13.8	82.8	10.3	6.9	79.3	10.4	10.3
16	13	79.3	10.9	4.0	5.8	90.2	5.8	4.0	83.3	9.2	7.5
3	3	71.4	21.4	7.2	--------	92.9	--------	7.1	78.6	10.7	10.7
5	5	69.6	13.0	8.7	8.7	82.6	13.0	4.4	78.2	10.9	10.9
61	37	78.0	7.8	7.9	6.3	85.8	8.8	5.4	85.9	8.8	5.3
2	--------	83.3	4.2	8.3	4.2	87.5	12.5	--------	91.7	8.3	--------
30	18	79.1	9.2	3.3	8.4	88.3	7.3	4.4	82.4	11.0	6.6
7	4	77.8	7.9	4.8	9.5	85.7	9.5	4.8	82.5	11.1	6.4
4	5	62.1	17.2	6.9	13.8	79.3	10.4	10.3	69.0	17.2	13.8
25	15	76.4	9.0	4.7	9.9	85.4	10.8	3.8	81.1	11.8	7.1
10	17	75.2	15.9	6.2	2.7	91.0	6.2	2.8	81.4	6.9	11.7
3	2	84.1	4.6	4.5	6.8	88.6	4.6	6.8	88.6	6.8	4.6
--------	2	89.2	2.7	5.4	2.7	91.9	8.1	--------	94.6	--------	5.4
541	328	72.0	10.0	8.5	9.5	81.9	12.0	6.1	80.5	12.1	7.4
8	11	73.3	14.7	1.3	10.7	88.0	8.0	4.0	74.6	10.7	14.7
89	95	64.5	16.9	9.6	9.0	81.4	8.6	10.0	74.1	12.5	13.4
3	--------	76.5	11.7	5.9	5.9	88.2	5.9	5.9	82.4	17.6	--------
12	10	78.4	8.6	5.8	7.2	87.1	8.6	4.3	84.2	8.6	7.2
8	3	77.0	5.8	10.3	6.9	82.8	10.3	6.9	87.4	9.2	3.4
3	2	85.0	10.0	2.5	2.5	95.0	5.0	--------	87.5	7.5	5.0
--------	--------	75.0	--------	25.0	--------	75.0	25.0	--------	100.0	--------	--------
20	22	69.5	13.5	6.8	10.2	83.1	11.3	5.6	76.3	11.3	12.4
21	8	74.1	10.5	8.0	7.4	84.6	10.5	4.9	82.1	13.0	4.9
12	2	82.9	8.1	4.5	4.5	91.0	6.3	2.7	87.4	10.8	1.8
87	76	64.5	14.2	9.2	12.1	78.7	11.1	10.2	73.7	14.0	12.3
7	5	78.9	9.9	4.2	7.0	88.7	11.3	--------	83.1	9.9	7.0
1	2	69.2	23.1	7.7	--------	92.3	7.7	--------	76.9	7.7	15.4
35	23	74.3	10.5	7.3	7.9	84.8	9.8	5.4	81.6	11.1	7.3
96	91	72.2	13.0	6.1	8.7	85.2	8.4	6.4	78.3	11.1	10.6
7	3	74.6	11.8	8.5	5.1	86.4	5.1	8.5	83.0	11.9	5.1
57	32	72.0	9.9	7.0	11.1	81.9	9.9	8.2	79.1	13.4	7.5
88	57	64.5	13.0	10.4	12.1	77.5	15.2	7.3	74.9	15.2	9.9
355	251	78.4	10.3	6.5	4.8	88.7	6.8	4.5	85.0	8.8	6.2
61	37	75.1	11.1	6.1	7.7	86.2	7.9	5.9	81.2	11.7	7.1
19	8	81.0	6.2	6.2	6.6	87.2	7.1	5.7	87.2	9.0	3.8
34	31	67.6	16.4	9.2	6.8	84.0	8.9	7.1	76.9	12.1	11.0
21	10	77.8	6.9	7.9	7.4	84.7	10.2	5.1	85.7	9.7	4.6
82	84	74.6	8.9	7.9	8.6	83.5	9.6	6.9	82.5	8.6	8.9
32	14	74.3	12.0	6.6	7.1	86.3	10.0	3.7	80.9	13.3	5.8
16	13	71.9	14.8	5.5	7.8	86.7	9.4	3.9	77.3	12.5	10.2
--------	--------	100.0	--------	--------	--------	100.0	--------	--------	100.0	--------	--------
13	15	75.8	12.8	5.4	6.0	88.6	6.7	4.7	81.2	8.7	10.1
16	9	75.5	8.1	8.8	7.6	83.7	9.4	6.9	84.3	10.1	5.6
39	26	77.4	8.5	6.3	7.8	85.9	8.6	5.5	83.7	9.8	6.5
9	8	79.6	7.3	8.0	5.1	86.9	7.3	5.8	87.6	6.6	5.8
4	1	72.0	20.0	8.0	--------	92.0	4.0	4.0	80.0	16.0	4.0
14	6	74.0	13.5	5.2	7.3	87.5	11.5	1.0	79.2	14.6	6.2
1	--------	75.0	12.5	12.5	--------	87.5	--------	12.5	87.5	12.5	--------
23	23	76.7	11.0	3.1	9.2	87.7	7.9	4.4	79.8	10.1	10.1
11	3	71.4	10.7	3.6	14.3	82.1	10.7	7.2	75.0	19.6	5.4
13	9	73.0	9.9	12.5	4.6	82.9	10.5	6.6	85.5	8.6	5.9
8	7	79.0	10.5	6.7	3.8	89.5	6.7	3.8	85.7	7.6	6.7
10	8	67.5	15.6	9.1	7.8	83.1	10.4	6.5	76.6	13.0	10.4

TABLE 16—*Brides classified by Race, Nativity, and Marital Condition, with Per Cent Distribution by Marital Condition, for Geographic Divisions: 1908.*

GEOGRAPHIC DIVISION AND RACE OR NATIVITY OF BRIDE.	Brides.				Per Cent.		
	Total.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.
THE STATE	21,739	17,744	2,317	1,678	81.6	10.7	7.7
White	21,322	17,443	2,238	1,641	81.8	10.5	7.7
Born in California	8,637	7,598	492	547	88.0	5.7	6.3
Born in other states*	8,352	6,363	1,123	866	76.2	13.4	10.4
Foreign born	4,333	3,482	623	228	80.3	14.4	5.3
Non-Caucasian	417	301	79	37	72.2	18.9	8.9
Northern California	2,057	1,701	215	141	82.7	10.4	6.9
White	2,031	1,682	210	139	82.8	10.3	6.9
Born in California	1,184	1,050	69	65	88.7	5.8	5.5
Born in other states*	580	429	90	61	74.0	15.5	10.5
Foreign born	267	203	51	13	76.0	19.1	4.9
Non-Caucasian	26	19	5	2	73.1	19.2	7.7
Coast counties	1,052	876	109	67	83.3	10.3	6.4
White	1,040	864	109	67	83.1	10.5	6.4
Born in California	589	518	36	35	88.0	6.1	5.9
Born in other states*	255	196	37	22	76.9	14.5	8.6
Foreign born	196	150	36	10	76.5	18.4	5.1
Non-Caucasian	12	12	----------	----------	100.0	----------	----------
Interior counties	1,005	825	106	74	82.1	10.5	7.4
White	991	818	101	72	82.5	10.2	7.3
Born in California	595	532	33	30	89.4	5.6	5.0
Born in other states*	325	233	53	39	71.7	16.3	12.0
Foreign born	71	53	15	3	74.7	21.1	4.2
Non-Caucasian	14	7	5	2	50.0	35.7	14.3
Central California	12,862	10,611	1,253	998	82.5	9.7	7.8
White	12,653	10,447	1,222	984	82.5	9.7	7.8
Born in California	6,106	5,327	362	417	87.3	5.9	6.8
Born in other states*	3,586	2,703	465	418	75.4	13.0	11.6
Foreign born	2,961	2,417	395	149	81.6	13.4	5.0
Non-Caucasian	209	164	31	14	78.5	14.8	6.7
San Francisco	4,035	3,429	355	251	85.0	8.8	6.2
White	3,970	3,370	350	250	84.9	8.8	6.3
Born in California	1,815	1,607	107	101	88.5	5.9	5.6
Born in other states*	873	680	102	91	77.9	11.7	10.4
Foreign born	1,282	1,083	141	58	84.5	11.0	4.5
Non-Caucasian	65	59	5	1	90.8	7.7	1.5
Other bay counties	3,721	3,001	383	337	80.6	10.3	9.1
White	3,650	2,951	370	329	80.9	10.1	9.0
Born in California	1,743	1,509	97	137	86.6	5.6	7.8
Born in other states*	1,098	812	145	141	74.0	13.2	12.8
Foreign born	809	630	128	51	77.9	15.8	6.3
Non-Caucasian	71	50	13	8	70.4	18.3	11.3
Coast counties	1,637	1,346	160	131	82.2	9.8	8.0
White	1,621	1,337	155	129	82.5	9.6	7.9
Born in California	886	775	55	56	87.5	6.2	6.3
Born in other states*	445	333	54	58	74.8	12.2	13.0
Foreign born	290	229	46	15	79.0	15.8	5.2
Non-Caucasian	16	9	5	2	56.3	31.2	12.5
Interior counties	3,469	2,835	355	279	81.7	10.2	8.1
White	3,412	2,789	347	276	81.7	10.2	8.1
Born in California	1,662	1,436	103	123	86.4	6.2	7.4
Born in other states*	1,170	878	164	128	75.1	14.0	10.9
Foreign born	580	475	80	25	81.9	13.8	4.3
Non-Caucasian	57	46	8	3	80.7	14.0	5.3

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*Includes those of unknown nativity, numbering in the entire State only 113, or 0.5 per cent.

TABLE 16—*Brides classified by Race, Nativity, and Marital Condition, with Per Cent Distribution by Marital Condition, for Geographic Divisions: 1908.*—Continued.

GEOGRAPHIC DIVISION AND RACE OR NATIVITY OF BRIDE.	Brides.				Per Cent.		
	Total.	Single.	Widowed.	Divorced.	Single.	Widowed.	Divorced.
Southern California	6,820	5,432	849	539	79.6	12.5	7.9
White	6,638	5,314	806	518	80.1	12.1	7.8
Born in California	1,347	1,221	61	65	90.7	4.5	4.8
Born in other states*	4,186	3,231	568	387	77.2	13.6	9.2
Foreign born	1,105	862	177	66	78.0	16.0	6.0
Non-Caucasian	182	118	43	21	64.9	23.6	11.5
Los Angeles	4,451	3,582	541	328	80.5	12.1	7.4
White	4,309	3,490	508	311	81.0	11.8	7.2
Born in California	771	697	34	40	90.4	4.4	5.2
Born in other states*	2,784	2,188	367	229	78.6	13.2	8.2
Foreign born	754	605	107	42	80.2	14.2	5.6
Non-Caucasian	142	92	33	17	64.8	23.2	12.0
Other countries	2,369	1,850	308	211	78.1	13.0	8.9
White	2,329	1,824	298	207	78.3	12.8	8.9
Born in California	576	524	27	25	91.0	4.7	4.3
Born in other states*	1,402	1,043	201	158	74.4	14.3	11.3
Foreign born	351	257	70	24	73.2	20.0	6.8
Non-Caucasian	40	26	10	4	65.0	25.0	10.0
Northern and Central California	14,919	12,312	1,468	1,139	82.5	9.9	7.6
White	14,684	12,129	1,432	1,123	82.6	9.8	7.6
Born in California	7,290	6,377	431	482	87.5	5.9	6.6
Born in other states*	4,166	3,132	555	479	75.2	13.3	11.5
Foreign born	3,228	2,620	446	162	81.2	13.8	5.0
Non-Caucasian	235	183	36	16	77.9	15.3	6.8
Coast counties	10,445	8,652	1,007	786	82.8	9.7	7.5
White	10,281	8,522	984	775	82.9	9.6	7.5
Born in California	5,033	4,409	295	329	87.6	5.9	6.5
Born in other states*	2,671	2,021	338	312	75.7	12.6	11.7
Foreign born	2,577	2,092	351	134	81.2	13.6	5.2
Non-Caucasian	164	130	23	11	79.3	14.0	6.7
Interior counties	4,474	3,660	461	353	81.8	10.3	7.9
White	4,403	3,607	448	348	81.9	10.2	7.9
Born in California	2,257	1,968	136	153	87.2	6.0	6.8
Born in other states*	1,495	1,111	217	167	74.3	14.5	11.2
Foreign born	651	528	95	28	81.1	14.6	4.3
Non-Caucasian	71	53	13	5	74.7	18.3	7.0
Metropolitan area	7,756	6,430	738	588	82.9	9.5	7.6
White	7,620	6,321	720	579	83.0	9.4	7.6
Born in California	3,558	3,116	204	238	87.6	5.7	6.7
Born in other states*	1,971	1,492	247	232	75.7	12.5	11.8
Foreign born	2,091	1,713	269	109	81.9	12.9	5.2
Non-Caucasian	136	109	18	9	80.2	13.2	6.6
Rural counties	7,163	5,882	730	551	82.1	10.2	7.7
White	7,064	5,808	712	544	82.2	10.1	7.7
Born in California	3,732	3,261	227	244	87.4	6.1	6.5
Born in other states*	2,195	1,640	308	247	74.7	14.0	11.3
Foreign born	1,137	907	177	53	79.8	15.6	4.6
Non-Caucasian	99	74	18	7	74.7	18.2	7.1

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*Includes those of unknown nativity, numbering in the entire State only 113, or 0.5 per cent.

TABLE 17.—*White Brides classified by Marital Condition and Nativity, with Per Cent Distribution by Nativity, for Geographic Divisions: 1909.*

GEOGRAPHIC DIVISION AND MARITAL CONDITION OF BRIDE.	White Brides.				Per Cent.		
	Total.	Born in California.	Born in Other States.*	Foreign Born.	Born in California	Born in Other States.	Foreign Born.
THE STATE	22,449	9,133	9,043	4,273	40.7	40.3	19.0
Single	18,333	7,944	6,922	3,467	43.3	37.8	18.9
Widowed	2,218	552	1,117	549	24.9	50.4	24.7
Divorced	1,898	637	1,004	257	33.6	52.9	13.5
Northern California	2,054	1.226	597	231	59.7	29.1	11.2
Single	1,663	1,069	413	181	64.3	24.8	10.9
Widowed	209	75	94	40	35.9	45.0	19.1
Divorced	182	82	90	10	45.1	49.4	5.5
Coast counties	978	564	250	164	57.7	25.5	16.8
Single	805	496	172	137	61.6	21.4	17.0
Widowed	91	29	39	23	31.9	41.8	25.3
Divorced	82	39	39	4	47.6	47.5	4.9
Interior counties	1,076	662	347	67	61.5	32.3	6.2
Single	858	573	241	44	66.8	28.1	5.1
Widowed	118	46	55	17	39.0	46.6	14.4
Divorced	100	43	51	6	43.0	51.0	6.0
Central California	12,921	6,252	3,734	2,935	48.4	28.9	22.7
Single	10,696	5,431	2,852	2,413	50.8	26.6	22.6
Widowed	1,154	371	441	342	32.2	38.2	29.6
Divorced	1,071	450	441	180	42.0	41.2	16.8
San Francisco	4,085	1,884	924	1,277	46.1	22.6	31.3
Single	3,452	1,667	691	1,094	48.3	20.0	31.7
Widowed	347	104	118	125	30.0	34.0	36.0
Divorced	286	113	115	58	39.5	40.2	20.3
Other bay counties	3,727	1,851	1,114	762	49.7	29.9	20.4
Single	3,014	1,582	833	599	52.5	27.6	19.9
Widowed	351	124	127	100	35.3	36.2	28.5
Divorced	362	145	154	63	40.1	42.5	17.4
Coast counties	1,613	867	450	296	53.7	27.9	18.4
Single	1,335	754	351	230	56.5	26.3	17.2
Widowed	131	43	53	35	32.8	40.5	26.7
Divorced	147	70	46	31	47.6	31.3	21.1
Interior counties	3,496	1,650	1,246	600	47.2	35.6	17.2
Single	2,895	1,428	977	490	49.4	33.7	16.9
Widowed	325	100	143	82	30.8	44.0	25.2
Divorced	276	122	126	28	44.2	45.7	10.1
Southern California	7,474	1,655	4,712	1,107	22.1	63.1	14.8
Single	5,974	1,444	3,657	873	24.2	61.2	14.6
Widowed	855	106	582	167	12.4	68.1	19.5
Divorced	645	105	473	67	16.3	73.3	10.4
Los Angeles	4,804	970	3,079	755	20.2	64.1	15.7
Single	3,908	849	2,452	607	21.7	62.8	15.5
Widowed	525	65	356	104	12.4	67.8	19.8
Divorced	371	56	271	44	15.1	73.0	11.9
Other counties	2,670	685	1,633	352	25.6	61.2	13.2
Single	2,066	595	1,205	266	28.8	58.3	12.9
Widowed	330	41	226	63	12.4	68.5	19.1
Divorced	274	49	202	23	17.9	73.7	8.4
Northern and Central California	14,975	7,478	4,331	3,166	49.9	28.9	21.2
Single	12,359	6,500	3,265	2,594	52.6	26.4	21.0
Widowed	1,363	446	535	382	32.7	39.3	28.0
Divorced	1,253	532	531	190	42.4	42.4	15.2
Coast counties	10,403	5,166	2,738	2,499	49.7	26.3	24.0
Single	8,606	4,499	2,047	2,060	52.3	23.8	23.9
Widowed	920	300	337	283	32.6	36.6	30.8
Divorced	877	367	354	156	41.8	40.4	17.8
Interior counties	4,572	2,312	1,593	667	50.6	34.8	14.6
Single	3,753	2,001	1,218	534	53.3	32.5	14.2
Widowed	443	146	198	99	33.0	44.7	22.3
Divorced	376	165	177	34	43.9	47.1	9.0
Metropolitan area	7,812	3,735	2,038	2,039	47.8	26.1	26.1
Single	6,466	3,249	1,524	1,693	50.2	23.6	26.2
Widowed	698	228	245	225	32.7	35.1	32.2
Divorced	648	258	269	121	39.8	41.5	18.7
Rural counties	7,163	3,743	2,293	1,127	52.3	32.0	15.7
Single	5,893	3,251	1,741	901	55.2	29.5	15.3
Widowed	665	218	290	157	32.8	43.6	23.6
Divorced	605	274	262	69	45.3	43.3	11.4

*Includes those of unknown nativity, numbering in the entire State only 92, or 0.4 per cent.

TABLE 18.—*White Brides classified by Marital Condition and Nativity, with Per Cent Distribution by Nativity, for Geographic Divisions: 1908.*

GEOGRAPHIC DIVISION AND MARITAL CONDITION OF BRIDE.	White Brides.				Per Cent.		
	Total.	Born in California.	Born in Other States *	Foreign Born.	Born in California.	Born in Other States	Foreign Born.
THE STATE	21,322	8,637	8,352	4,333	40.5	39.2	20.3
Single	17,443	7,598	6,363	3,482	43.5	36.5	20.0
Widowed	2,238	492	1,123	623	22.0	50.2	27.8
Divorced	1,641	547	866	228	33.3	52.8	13.9
Northern California	2,031	1,184	580	267	58.3	28.6	13.1
Single	1,682	1,050	429	203	62.4	25.5	12.1
Widowed	210	69	90	51	32.8	42.9	24.3
Divorced	139	65	61	13	46.8	43.9	9.3
Coast counties	1,040	589	255	196	56.6	24.5	18.9
Single	864	518	196	150	59.9	22.7	17.4
Widowed	109	36	37	36	33.0	34.0	33.0
Divorced	67	35	22	10	52.3	32.8	14.9
Interior counties	991	595	325	71	60.0	32.8	7.2
Single	818	532	233	53	65.0	28.5	6.5
Widowed	101	33	53	15	32.7	52.5	14.8
Divorced	72	30	39	3	41.7	54.2	4.1
Central California	12,653	6,106	3,586	2,961	48.3	28.3	23.4
Single	10,447	5,327	2,703	2,417	51.0	25.9	23.1
Widowed	1,222	362	465	395	29.6	38.1	32.3
Divorced	984	417	418	149	42.4	42.5	15.1
San Francisco	3,970	1,815	873	1,282	45.7	22.0	32.3
Single	3,370	1,607	680	1,083	47.7	20.2	32.1
Widowed	350	107	102	141	30.6	29.1	40.3
Divorced	250	101	91	58	40.4	36.4	23.2
Other bay counties	3,650	1,743	1,098	809	47.7	30.1	22.2
Single	2,951	1,509	812	630	51.1	27.5	21.4
Widowed	370	97	145	128	26.2	39.2	34.6
Divorced	329	137	141	51	41.6	42.9	15.5
Coast counties	1,621	886	445	290	54.7	27.4	17.9
Single	1,337	775	333	229	58.0	24.9	17.1
Widowed	155	55	54	46	35.5	34.8	29.7
Divorced	129	56	58	15	43.4	45.0	11.6
Interior counties	3,412	1,662	1,170	580	48.7	34.3	17.0
Single	2,789	1,436	878	475	51.5	31.5	17.0
Widowed	347	103	164	80	29.7	47.3	23.0
Divorced	276	123	128	25	44.6	46.4	9.0
Southern California	6,638	1,347	4,186	1,105	20.3	63.1	16.6
Single	5,314	1,221	3,231	862	23.0	60.8	16.2
Widowed	806	61	568	177	7.6	70.5	21.9
Divorced	518	65	387	66	12.6	74.7	12.7
Los Angeles	4,309	771	2,784	754	17.9	64.6	17.5
Single	3,490	697	2,188	605	20.0	62.7	17.3
Widowed	508	34	367	107	6.7	72.2	21.1
Divorced	311	40	229	42	12.9	73.6	13.5
Other counties	2,329	576	1,402	351	24.7	60.2	15.1
Single	1,824	524	1,043	257	28.7	57.2	14.1
Widowed	298	27	201	70	9.1	67.4	23.5
Divorced	207	25	158	24	12.1	76.3	11.6
Northern and Central California	14,684	7,290	4,166	3,228	49.6	28.4	22.0
Single	12,129	6,377	3,132	2,620	52.6	25.8	21.6
Widowed	1,432	431	555	446	30.1	38.8	31.1
Divorced	1,123	482	479	162	42.9	42.7	14.4
Coast counties	10,281	5,033	2,671	2,577	48.9	26.0	25.1
Single	8,522	4,409	2,021	2,092	51.7	23.7	24.6
Widowed	984	295	338	351	30.0	34.3	35.7
Divorced	775	329	312	134	42.4	40.3	17.3
Interior counties	4,403	2,257	1,495	651	51.3	33.9	14.8
Single	3,607	1,968	1,111	528	54.6	30.8	14.6
Widowed	448	136	217	95	30.4	48.4	21.2
Divorced	348	153	167	28	44.0	48.0	8.0
Metropolitan area	7,620	3,558	1,971	2,091	46.7	25.9	27.4
Single	6,321	3,116	1,492	1,713	49.3	23.6	27.1
Widowed	720	204	247	269	28.3	34.3	37.4
Divorced	579	238	232	109	41.1	40.1	18.8
Rural counties	7,064	3,732	2,195	1,137	52.8	31.1	16.1
Single	5,808	3,261	1,640	907	56.2	28.2	15.6
Widowed	712	227	308	177	31.9	43.2	24.9
Divorced	544	244	247	53	44.9	45.4	9.7

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*Includes those of unknown nativity, numbering in the entire State only 113, or 0.5 per cent.

TABLE 19.—*Brides classified by Race, Nativity, and*

COUNTY.	Single Brides.						
		White.					
	Total.	Total.	Born in California.	Born in Other States.*	Foreign Born	Non-Caucasian.	Total.
CALIFORNIA	18,689	18,333	7,944	6,922	3,467	356	2,293
Alameda	2,041	2,005	998	572	435	36	219
Alpine	1	1	1	-------	-------	-------	-------
Amador	52	52	41	4	7	-------	3
Butte	151	150	94	51	5	1	23
Calaveras	24	24	15	-------	9	-------	4
Colusa	24	24	22	2	-------	-------	-------
Contra Costa	130	130	66	24	40	-------	18
Del Norte	9	9	6	3	-------	-------	8
El Dorado	33	33	27	5	1	-------	3
Fresno	573	571	181	258	132	2	50
Glenn	30	30	21	8	1	-------	3
Humboldt	243	239	128	55	56	4	16
Imperial	60	60	13	40	7	-------	11
Inyo	35	33	18	12	3	2	-------
Kern	205	203	78	95	30	2	26
Kings	175	172	76	53	43	3	15
Lake	27	27	25	2	-------	-------	4
Lassen	27	26	20	6	-------	1	1
Los Angeles	4,009	3,908	849	2,452	607	101	553
Madera	44	43	22	16	5	1	5
Marin	647	647	372	177	98	-------	93
Mariposa	9	8	6	2	-------	1	2
Mendocino	127	125	81	18	26	2	16
Merced	72	72	32	16	24	-------	10
Modoc	37	37	25	12	-------	-------	3
Mono	4	4	2	1	1	-------	1
Monterey	146	144	96	31	17	2	7
Napa	113	112	66	28	18	1	14
Nevada	75	75	60	12	3	-------	11
Orange	645	640	167	411	62	5	103
Placer	62	62	38	20	4	-------	7
Plumas	19	19	14	5	-------	-------	3
Riverside	244	237	56	160	21	7	26
Sacramento	680	668	395	172	101	12	90
San Benito	45	45	34	5	6	-------	1
San Bernardino	389	382	94	227	61	7	65
San Diego	473	457	122	256	79	16	102
San Francisco	3,575	3,452	1,667	691	1,094	123	351
San Joaquin	416	413	234	111	68	3	59
San Luis Obispo	172	172	109	47	16	-------	16
San Mateo	234	232	146	60	26	2	34
Santa Barbara	180	179	91	65	23	1	13
Santa Clara	773	764	401	208	155	9	81
Santa Cruz	210	210	114	60	36	-------	28
Shasta	126	124	88	28	8	2	28
Sierra	13	13	13	-------	-------	-------	2
Siskiyou	122	119	63	42	14	3	16
Solano	128	126	79	34	13	2	14
Sonoma	289	289	186	66	37	-------	35
Stanislaus	107	106	40	45	21	1	15
Sutter	27	27	16	11	-------	-------	1
Tehama	84	83	52	27	4	1	15
Trinity	4	4	4	-------	-------	-------	1
Tulare	240	239	93	125	21	1	26
Tuolumne	52	52	32	12	8	-------	7
Ventura	112	111	52	46	13	1	14
Yolo	75	75	56	16	3	-------	10
Yuba	70	69	47	17	5	1	11

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*Includes those of unknown nativity, numbering in the entire State only 92 (sin

Marital Condition, for Counties: 1909.

Widowed Brides.					Divorced Brides					
White.				Non-Caucasian.	Total.	White.				Non-Caucasian.
Total.	Born in California.	Born in Other States.*	Born.			Total.	Born in California.	Born in Other States *	Foreign Born.	
2,218	552	1,117	549	75	1,935	1,898	637	1,004	257	37
206	65	77	64	13	209	199	68	89	42	10
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
3	--------	1	2	--------	2	2	1	--------	1	--------
22	6	14	2	1	19	19	6	13	--------	--------
4	2	1	1	--------	2	2	1	1	--------	--------
--------	--------	--------	--------	--------	1	1	1	--------	--------	--------
18	6	6	6	--------	16	16	10	6	--------	--------
7	--------	7	--------	1	3	3	1	2	--------	--------
3	2	1	--------	--------	7	7	7	--------	--------	--------
49	10	27	12	1	50	49	18	26	5	1
3	--------	3	--------	--------	1	1	1	--------	--------	--------
15	5	4	6	1	11	10	4	6	--------	1
10	4	3	3	1	6	6	1	5	--------	--------
--------	--------	--------	--------	--------	2	2	--------	2	--------	--------
24	5	16	3	2	27	27	9	16	2	--------
15	5	5	5	--------	9	9	5	3	1	--------
4	2	2	--------	--------	2	2	1	1	--------	--------
1	1	--------	--------	--------	2	2	2	--------	--------	--------
525	65	356	104	28	386	371	56	271	44	15
4	1	3	--------	1	8	8	2	6	--------	--------
93	40	31	22	--------	112	111	49	48	14	1
2	2	--------	--------	--------	1	1	1	--------	--------	--------
15	4	9	2	1	12	12	9	3	--------	--------
9	2	2	5	1	6	6	2	3	1	--------
3	2	1	--------	--------	4	4	3	1	--------	--------
1	--------	1	--------	--------	--------	--------	--------	--------	--------	--------
6	2	2	2	1	19	19	11	7	1	--------
14	8	4	7	--------	13	13	5	7	1	--------
11	6	3	2	--------	9	9	5	4	--------	--------
102	9	78	15	1	123	123	15	96	12	--------
7	3	4	--------	--------	9	9	4	3	2	--------
3	1	2	--------	--------	3	3	1	2	--------	--------
26	4	20	2	--------	27	27	3	22	2	--------
88	34	36	18	2	83	82	38	35	9	1
1	1	--------	--------	--------	3	3	1	--------	2	--------
64	9	48	7	1	38	36	7	26	3	2
101	7	62	32	1	49	48	11	33	4	1
347	104	118	125	4	288	286	113	115	58	2
57	14	22	21	2	47	47	20	19	8	--------
15	6	6	3	1	18	18	10	4	4	--------
34	13	13	8	--------	37	36	18	11	7	1
13	4	7	2	--------	25	25	10	13	2	--------
81	26	32	23	--------	87	87	38	29	20	--------
28	8	13	7	--------	20	20	10	6	4	--------
27	11	9	7	1	16	15	6	8	1	1
2	1	1	--------	--------	1	1	1	--------	--------	--------
12	2	8	2	4	18	18	6	11	1	--------
10	4	3	3	4	10	9	6	2	1	1
35	15	12	8	--------	39	39	17	19	3	--------
13	3	4	6	2	9	9	5	4	--------	--------
1	--------	1	--------	--------	2	2	--------	2	--------	--------
15	8	4	3	--------	7	7	4	2	1	--------
1	--------	1	--------	--------	3	3	2	1	--------	--------
26	8	17	1	--------	10	10	2	8	--------	--------
7	3	1	3	--------	2	2	1	1	--------	--------
14	4	8	2	--------	9	9	2	7	--------	--------
10	5	3	2	--------	4	4	4	--------	--------	--------
11	5	5	1	--------	9	9	3	5	1	--------

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gle 79, widowed 7, and divorced 6), or 0.4 per cent.

TABLE 20.—*Brides classified by Race, Nativity, and*

COUNTY.	Single Brides.						
	Total.	White.				Non-Caucasian.	Total.
		Total.	Born in California.	Born in Other States.*	Foreign Born.		
CALIFORNIA	17,744	17,443	7,598	6,363	3,482	301	2,317
Alameda	2,114	2,067	1,001	82	484	47	244
Alpine							
Amador	44	43	28	4	11	1	4
Butte	162	161	97	55	9	1	21
Calaveras	31	31	21	2	8		3
Colusa	23	23	20	2	1		3
Contra Costa	145	145	75	34	36		16
Del Norte	22	20	8	11	1	2	3
El Dorado	36	35	28	5	2	1	5
Fresno	598	588	179	254	155	10	61
Glenn	22	22	15	5	2		2
Humboldt	225	219	134	28	57	6	30
Imperial	52	52	10	37	5		7
Inyo	20	20	7	10	3		4
Kern	172	171	79	63	29	1	25
Kings	118	115	48	46	21	3	10
Lake	39	38	26	11	1	1	3
Lassen	35	35	26	8	1		
Los Angeles	3,582	3,490	697	2,188	605	92	541
Madera	56	56	32	15	9		8
Marin	526	524	308	138	78	2	89
Mariposa	14	13	10	3		1	3
Mendocino	117	116	81	10	25	1	12
Merced	76	76	44	12	20		8
Modoc	35	35	31	3	1		3
Mono	4	4	1	1	2		
Monterey	135	134	96	25	13	1	20
Napa	133	133	74	42	17		21
Nevada	97	97	68	19	10		12
Orange	457	453	103	306	44	4	87
Placer	59	58	31	22	5	1	7
Plumas	10	9	8	1		1	1
Riverside	257	248	64	150	34	9	35
Sacramento	676	662	404	158	100	14	96
San Benito	49	49	34	10	5		7
San Bernardino	336	332	91	195	46	4	57
San Diego	433	426	106	249	71	7	88
San Francisco	3,429	3,370	1,607	680	1,083	59	355
San Joaquin	423	414	246	112	56	9	61
San Luis Obispo	184	184	118	36	30		19
San Mateo	216	215	125	58	32	1	34
Santa Barbara	185	184	90	62	32	1	21
Santa Clara	783	776	417	210	149	7	82
Santa Cruz	195	194	110	52	32	1	32
Shasta	99	98	69	24	5	1	16
Sierra	7	7	5	2			
Siskiyou	121	119	74	37	8	2	13
Solano	134	131	82	34	15	3	16
Sonoma	333	331	189	93	49	2	39
Stanislaus	120	120	58	40	22		9
Sutter	20	20	10	9	1		4
Tehama	76	76	36	34	6		14
Trinity	7	7	6	1			1
Tulare	181	178	82	82	14	3	23
Tuolumne	42	42	31	9	2		11
Ventura	130	129	60	44	25	1	13
Yolo	90	90	56	28	6		8
Yuba	59	58	42	12	4	1	10

*Includes those of unknown nativity, numbering in the entire State only 113 (sin

Marital Condition, for Counties: 1908.

Widowed Brides.					Divorced Brides.					
White.				Non-Caucasian.	Total.	White.				Non-Caucasian.
Total.	Born in California.	Born in Other States.*	Foreign Born			Total.	Born in California.	Born in Other States.*	Foreign Born.	
2,238	492	1,123	623	79	1,678	1,641	547	866	228	37
231	51	91	89	13	198	193	72	85	36	5
4	2	1	1	---	5	5	4	1	---	---
17	6	10	1	4	15	15	5	9	1	---
3	2	---	1	---	3	3	2	1	---	---
3	2	---	1	---	3	3	1	2	---	---
16	4	6	6	---	13	13	6	5	2	---
3	3	---	---	---	3	3	3	---	---	---
5	2	2	1	---	5	5	4	1	---	---
60	15	27	18	1	37	36	13	20	3	1
2	2	---	---	---	---	---	---	---	---	---
30	8	11	11	---	18	18	10	4	4	---
7	---	4	3	---	4	4	---	4	---	---
4	2	2	---	---	5	5	2	2	1	---
22	5	13	4	3	15	14	4	7	3	1
10	1	8	1	---	17	17	3	12	2	---
3	---	2	1	---	2	2	1	1	---	---
---	---	---	---	---	2	2	1	1	---	---
508	34	367	107	33	328	311	40	229	42	17
8	2	2	4	---	11	11	4	6	1	---
89	31	35	23	---	95	94	47	35	12	1
3	---	3	---	---	---	---	---	---	---	---
12	4	4	4	---	10	10	2	6	2	---
8	2	6	---	---	3	3	2	1	---	---
3	1	2	---	---	2	2	---	2	---	---
17	8	6	3	3	22	21	14	6	1	1
21	9	7	5	---	8	8	5	3	---	---
12	4	5	3	---	2	2	1	1	---	---
87	6	60	21	---	76	76	9	60	7	---
7	1	5	1	---	5	4	2	2	---	1
1	---	1	---	---	2	2	1	---	1	---
31	---	26	5	4	23	22	3	17	2	1
93	30	45	18	3	91	90	44	40	6	1
6	2	2	2	1	3	3	1	2	---	---
55	2	37	16	2	32	31	4	25	2	1
84	11	57	16	4	57	55	4	42	9	2
350	107	102	141	5	251	250	101	91	58	1
61	18	24	19	---	37	37	16	13	8	---
18	6	10	3	1	8	8	3	5	---	---
34	11	13	10	---	31	29	12	16	1	2
21	4	12	5	---	10	10	3	6	1	---
82	26	27	29	---	84	83	29	41	13	1
32	13	10	9	---	14	14	9	4	1	---
16	3	10	3	---	13	13	4	8	1	---
12	3	8	1	1	15	15	5	10	---	---
15	9	2	5	1	9	9	7	2	---	---
39	11	13	15	---	26	26	14	8	4	---
9	2	4	3	---	8	8	4	3	1	---
4	1	3	---	---	1	1	1	---	---	---
14	5	4	5	---	6	6	6	---	---	---
1	1	---	---	---	---	---	---	---	---	---
23	5	14	4	---	23	23	10	13	---	---
11	4	6	1	---	3	3	1	2	---	---
13	4	5	4	---	9	9	2	4	3	---
8	2	5	---	---	7	7	3	4	---	---
10	5	5	---	---	8	7	3	4	---	1

gle 86, widowed 13, and divorced 14), or 0.5 per cent.

DEPARTMENT OF PURE FOODS AND DRUGS.

INTRODUCTION.

The following data represents the second biennial report of the Director of the State Food and Drug Laboratory. The period covered by the work is from August 1, 1908, to August 1, 1910, during which time 2,800 samples were received at the Laboratory, of which 2,400 were examined and are included in the work here reported. Four hundred of the samples included are those which are termed unofficial samples, that is, samples not taken in accordance with the provisions of the law, but simply for the purpose of either preliminary examination or for some point of interest in connection with the food or drug in question. Among the 400 were also samples which were officially taken, but the examination of which was not possible for various reasons. The package may have been broken in transit or the label may have been incomplete, etc. A larger number of samples would have been collected and examined during the past year had it not been for the fact that the moving of the State Laboratory from the Agricultural Building to the annex of the Fertilizer Control Building necessitated for the time being a cessation of work, and required the time of the staff in fitting up and arranging the new laboratory for routine and office work.

ORGANIZATION.

The organization charged with the enforcement of the law includes: (1) inspectors who procure samples for analysis and information regarding the manufacture and sale of foods and drugs; (2) chemists and clerks, in the laboratories of the State Board of Health, University of California, Berkeley, Cal.; (3) the Board of Food and Drug Inspection, which consists of the Secretary of the State Board of Health, the attorney for the State Board of Health, and the Director of the State Laboratory. The duties of this board are to consider all questions arising in the enforcement of the food and drug act of March 11, 1907, and to consider and supervise all correspondence involving interpretation of the law and questions arising under the law.

INSPECTORS.

There are three regularly appointed inspectors—two for the northern part of the State and one for Los Angeles and vicinity. It is readily seen that such a number is inadequate to cope with the situation as it at present exists in this State.

DUTIES OF INSPECTORS.

The duties of the inspectors are as follows: (1) to investigate the wholesale and retail markets and obtain samples of foods and drugs manufactured and sold in the State; (2) to inspect manufacturing establishments and secure information in regard to the nature of the foods manufactured; (3) to investigate the manufacture and use of substances which are or may be employed for the adulteration of foods and drugs and methods of preparation which may lead to the damage or deterioration of foods and drugs, or to the use of improper materials in their manufacture; (4) to inspect and report upon the sanitary conditions of all places where food is manufactured, sold, or offered for sale. The inspectors report periodically to the Laboratory at Berkeley, and mail weekly statements of the work done, to the Secretary of the State Board of Health at Sacramento. Inspectors do not maintain offices, and spend but a small portion of their time at the Laboratory.

COLLECTION OF SAMPLES.

Three samples are taken by the inspector and are officially labeled and sealed. One is left with the party whose store or establishment is being inspected; the second is sent to the Laboratory at Berkeley for examination and analysis, and the third is forwarded to the Secretary of the State Board of Health, Sacramento, California.

HEARINGS.

Whenever an examination or analysis by the Director of the State Laboratory shows that any of the provisions of the food or drugs acts have been violated, notice of that fact, together with a copy of the certificate of findings, is furnished to the party or parties from whom the sample was obtained or who executed the guaranty, as provided in this act, and date is fixed by the Secretary of the State Board of Health, at which said party or parties may be heard before the State Board of Health, or before any two members thereof and the Secretary. These hearings are held in the city of Sacramento, and at least fifteen days' notice thereof shall be served upon the party complained of. These hearings shall be private, and confined to questions of fact. Parties interested therein may appear in person or by attorney, and may propound interrogatories and submit oral or written evidence to show any fault or error in the findings made by the Director of the State Laboratory. If the examination or analysis be found correct, or if the party or parties fail to appear at such hearing after notice duly served as provided herein, the Secretary of the State Board of Health shall forthwith transmit a certificate of the facts so found to the district attorney of the county in which said adulterated, mislabeled or misbranded food was found. No publication, as in this act provided, shall be made until after said hearing is concluded.

EDUCATIONAL WORK.

One of the salient features of the pure food movement is the educational side. It is not the object of the State Board of Health or those connected with the enforcement of the pure food law, to pounce down upon an ignorant infringer of the law and haul him up for disgrace and punishment. On the contrary, the State Board has assumed the attitude of instructor, and it has been very encouraging to find how anxious and willing the great majority have been to understand and comply with the law. In order to reach those in out of the way places, who had not applied to the Laboratory for information, the State Board of Health instituted a special system of work along this line during the summer of 1909. Part of the State was divided into sections and especially qualified inspector sent to each district. He visited each town in his district, and every store and factory in the town. He took no samples whatever. He looked over all goods with the proprietor, told him which were not labeled properly, warned him against questionable methods, advised him about getting guaranties with his goods, etc. It is a matter of congratulation to say that out of the thousands of establishments visited, as indicated by the tabular statement following, the cases of rudeness, or lack of appreciation, were so few that they are not worth remembering. The inspectors were welcomed politely and dismissed with gratitude.

SUMMARY OF WORK OF TEMPORARY INSPECTORS, 1909.

Temporary inspectors.	Number of towns visited.	Stores inspected.					Total.
		Groceries.	Butchers	Confectionery.	Drugs	Miscellaneous	
Johnson, F. E.	27	110	40	60	14	29	253
Rosenstein, L.	44	163	57	60	62	9	351
Hoagland, D. R.	25	134	53	59	13	16	275
Roberts, J. B.	24	72	24	25	16	22	159
Totals	120	479	174	204	105	76	1,038

The manufacturers and dealers, however, are not the only class that require education. A great deal of persistent effort is needed in order to make the average consumer both intelligent and conscientious on this subject.

We all have heard the complaints from the grocer that the housekeeper now returns to him his pure maple syrup with the remark, "It is not nice, the family do not like it." She wants the kind of maple syrup she has always used—he offers her the choice of "cane and maple syrup" or "cane and corn syrup maple flavored." Oh, no! She will not have those; she never used "*Corn* syrup," she used "*Maple,*" but it was nicer than that which he gave her the other day; she thinks she will try another grocer, and so it goes.

The law of supply and demand is a fixed one—we can not hope to move it. We must, therefore, in trying to regulate the supply, work also to create and maintain the proper kind of demand.

It would appear, therefore, that still more time and effort should be used for educational purposes than has already been done, because successful enforcement, satisfactory enforcement, is far more a matter of education than of law. In this connection it may be interesting to state that the Director of the Laboratory has spent some time during the two years covered by this report lecturing before different associations and meetings, with special reference to the educational policy of the State Board of Health. Lectures, at times illustrated by lantern slides, have been delivered in Sacramento, Anderson, University Farm, Davis (several times), Napa, Petaluma, Berkeley, Oakland, San Francisco, San Jose, Capitola, Seabright, Santa Cruz, Hollister, San Diego and other places, and also by Mr. E. J. Lea, acting for the Director, at Goleta, Nordhoff, Ventura, Fillmore, and Carpinteria. This form of instruction proved to be of considerable interest and value to the localities visited, as evidenced by the animated discussions following each lecture. As a still further endeavor in this direction, it may be mentioned that on the agricultural demonstration train and on the

State Board of Health's sanitation car have been placed exhibits of foods, both adulterated and pure. The difference between them could be detected only by a chemical analysis, as the appearance, and quite often the taste, failed to detect the pure from the adulterated. The object of this was to show the necessity of maintaining a chemical laboratory for the purpose of ensuring to the consumer pure articles of food. It is believed that such an exhibit is of very great value. This is confirmed by the great interest taken in the display by the large number of visitors which passed through these trains. It is of more than passing interest to note that upwards of 73,000 visited the agricultural demonstration train during the fall of 1909 and the spring of 1910, and over 100,000 people visited the sanitation car.

The Director of the State Laboratory was appointed as delegate from the State Board of Health to attend the convention of the Official Agricultural Chemists and Food Control Officials in Washington, November, 1908, and at the convention in Denver, 1909.

The conventions, as a whole, were glad that California was represented at the meetings, and it is to be hoped that there always will be such a representation at these important gatherings, as the conference with others as to methods of analysis and of enforcing the pure food law can not be otherwise than of the utmost benefit to those interested. There is another feature in this connection which must not be overlooked, and that is, the opportunity given the representative to visit other important laboratories in the East and confer with the analyst as to apparatus and other details which it is impossible to discuss by correspondence. For scientists located on the Pacific coast it is of the utmost importance, and one might say almost a necessity, to make periodical visits to the scientific centers in the East in order to keep up with the march of progress in such work. Correspondence and literature are of inestimable value, but they can not take the place of a personal visit to the scientific laboratories.

LABORATORY WORK.

The following tabular statements indicate the nature and kind of chemical and microscopical work which has been done during the two years—from August 1, 1908, to August 1, 1910. As in previous cases, it is considered best to indicate the number of samples of each kind of food tested by separate tables, rather than to present the report in one large table. In addition it should be stated that considerable time is required for correspondence and personal interviews:

BEERS.

Material.	Number containing preservatives.	Number not containing preservatives.	Total.
August 1, 1908, to August 1, 1909—			
Beers		12	12
August 1, 1909, to August 1, 1910—			
Beers			

The 12 samples of beer here reported were examined for the purpose of ascertaining the absence of nonpermissible preservatives; as will be seen by the table, no preservatives were found.

BEVERAGES.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Cider			8	6	14
Ginger ale	2	2		4	8
Grape juice				4	4
Soda waters, etc.	2	16		25	43
Totals	4	18	8	39	69
August 1, 1909, to August 1, 1910—					
Cider			1	4	5
Ginger ale	1	1		5	7
Soda waters, etc.		4		4	8
Totals	1	5	1	13	20

The findings with reference to the beverages as a whole are interesting, in that they indicate a great improvement in the condition of these drinks as compared with showing previously made.* It was there found that but 28 per cent of the samples tested complied with the law, 72 per cent being adulterated and mislabeled.

The tabulated data here presented shows that 58 per cent are not in violation of the pure food act, leaving but 42 per cent which failed to comply with the law. Of these about 26 per cent were mainly mislabeled, in that benzoate of soda and saccharin were used in the preparation of the products, while no mention of such fact was made on the label. In some cases allowable coal-tar colors were employed, but the label failed to indicate any such use.

The samples of soda water, etc., examined include a large variety of such drinks as cococola, iron brew, peach mello, sarsaparilla and iron, queen charlotte, etc.

In only one sample, that of ginger ale, was salicylic acid detected.

BREADS.

Material.	Number adulterated.	Number misbranded or mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Breads			2	2
August 1, 1909, to August 1, 1910—				
Breads				

No systematic examination of breads was undertaken. Two samples were examined, as indicated in the above table. A sample of brown bread was submitted to the Laboratory with the statement that it contained added color. The examination, however, for artificial color showed negative results. The sample of gluten bread was stated to be low in nitrogen. A chemical examination proved that the nitrogen content was up to the standard required by law.

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* California State Board of Health, 1908, p. 212.

BUTTER.

Material.	Number adulterated.	Number misbranded or mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Butter	1	4	2	7
August 1, 1909, to August 1, 1910—Butter		15	3	18

Twenty-five samples of butter were submitted to the Laboratory for examination and analysis. Fourteen of the samples submitted were found to be in violation of the law, in that the package did not weigh as much as the label indicated; in other words, it was short-weight butter. Two samples were found to be adulterated, in that the water content was practically twice the maximum allowed by the Federal Government and the State laws. The maximum amount of water allowed in butter is 16 per cent. The percentage found in these samples in question varied from 32 to 36. Four of the samples submitted were found to be misbranded, in that the labels were misleading and deceiving as regards the place of manufacture. Five samples were found to be not in violation of the pure foods act.

It is to be regretted that more time could not be devoted to a full investigation of the matter of short-weight butter. There are several creameries in the State that furnish to the consumer, full weight, that is, 2-pound squares. Such manufacturers have to suffer in competition with those who furnish packages containing less than the two pounds of butter.

CEREALS.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Cereals				
August 1, 1909, to August 1, 1910—Cereals	5		14	19

Of the 19 samples here reported, 5 were found to be adulterated, in that foreign starch was present. The examination of the cereals and by-products is extremely important, not only with reference to their use as human foods, but also in connection with their use as poultry foods. It is well known that oats, either in the shape of granulated oats or coarse oatmeal, is one of the best foods for growing poultry that is to be found in the open market. This is due to some extent to the richness of oats in protein. No other grain contains as much. Therefore, an adulteration by the substitution of other grains for the oats is not only a pecuniary fraud, but results also in the poultry being deprived of a certain amount of nutriment so necessary for their rapid growth and development. It is, perhaps, of more than passing interest to note that the microscope is of the utmost aid in detecting such adulterations, and such an examination is generally sufficient to base final conclusions regarding the purity, or otherwise, of different cereal products.

CHEESE.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Cheese	1			1	2
August 1, 1909, to August 1, 1910—Cheese					

Two samples of cheese were officially submitted to the Laboratory for the purpose of ascertaining whether or not they contained any nonpermissible preservative. The chemical analysis shows that one sample was adulterated, in that it contained borax, while the other was not in violation of the pure foods act.

CHOCOLATE AND COCOA.

Material.	Number adulterated.	Number mislabeled	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Chocolate and cocoa			3	3
August 1 1909, to August 1, 1910—Chocolate and cocoa				

It is to be regretted that time did not permit of an extended examination of chocolates and cocoas. It is to be hoped during the coming year that more data can be collected with reference to these foods. The amount of nutriment that is obtained from an infusion of tea and coffee is practically nil, whereas, in the case of chocolate and cocoa it is entirely different. The analyses of these food materials show us that they furnish considerable nutriment, and therefore it is quite important that an examination be made for the purpose of insuring to the consumer a pure and wholesome article. Three samples examined, as indicated above. were not found to be in violation of the law.

COFFEE.

Material.	Number adulterated.	Number mislabeled	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Coffee			13	13
August 1, 1909, to August 1, 1910—Coffee			6	6

The systematic and comprehensive examination of coffees is very necessary on account of the opportunity for misbranding and mislabeling. The adulteration of the coffee with cereals and with chicory is more or less easily detected with the aid of the microscope. It may be said that there is very little, if any, misbranding or mislabeling in this direction. The adulteration of the coffee with cereals and with chicory, is more or being unobjectionable, and in accordance with the law governing such cases. The main form of adulteration, however, as practiced at present is the mislabeling and misbranding as to locality where the coffee is grown. The 19 samples that were examined in the Laboratory were found to be neither adulterated, misbranded, nor mislabeled.

COFFEE SUBSTITUTE.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Coffee substitute		5	5	10
August 1, 1909, to August 1, 1910—Coffee substitute				

Ten samples of coffee substitutes were collected by inspectors and examined at the Laboratory. Five of the samples were found to be mislabeled, in that the labels lead the purchaser to believe that a considerable amount of coffee was present in the mixture. This was found not to be the case.

COLORS.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Colors	13	7	22	42
August 1, 1909, to August 1, 1910—Colors				

Forty-two samples of coloring matters intended for coloring different foods, were examined with the result that 22 of the samples were found not to be in violation of the pure foods act. Seven samples were mislabeled, in that the color was not that indicated by the label on the package. Thirteen samples were found to be adulterated, because they were coal-tar dyes, not permissible in food products. The State law allows the use in foods or food products of seven coal-tar colors, provided that the presence of such colors is plainly stated on the label when such colors are used to imitate the natural color of any food product.

CONFECTIONERY.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total
August 1, 1908, to August 1, 1909—Confectionery	7	23		61	91
August 1, 1909, to August 1, 1910—Confectionery		3		10	13

The findings of the previous report* showed that 27 per cent of the samples examined contained paraffin. Of the 104 examined and here reported, less than 7 per cent were found to be so adulterated, and at the present writing it is believed that there is practically no such sophistication practiced. Twenty-three samples were mislabeled, in that they were colored so as to deceive and mislead the purchaser into the belief that fruit colors were used, whereas such was not the case.

With reference to the use of artificial colors in candy, the following may be said: Only harmless coloring matter is allowed in any case, regardless of the label used. Only certain specified coal-tar colors are allowed, the list of which has repeatedly been published. No coloring matter can be used for the purpose of concealing inferiority, in any event. If the coloring matter indicates the presence of a flavor or an ingredient which is not present, or if it indicates the presence of an ingredient in greater quantity than is really contained, the presence of artificial coloring matter must be declared on the label. It must likewise be declared if the coloring matter gives the article the appearance of an article of a different or higher grade or standard. Otherwise, the label will be deemed to be deceptive, and prosecutions will be ordered. If, however, the flavor indicated by the label is that actually used, or if the ingredient indicated by the color is actually present, and to the degree indicated, the addition of harmless, allowable coloring matter need not be declared on the label.

CRACKERS.

Material.	Nnmber adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Crackers	------	------	------	------
August 1, 1909, to August 1, 1910—				
Crackers	------	------	1	1

As indicated by the above table, but one sample of crackers was examined, and this was found not to be in violation of the law. The sample was submitted with the request that analysis be made for the purpose of ascertaining whether or not any preservative had been used. No preservatives were found.

CREAM.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Cream	------	------	------	------
August 1, 1909, to August 1, 1910—				
Cream	2	------	3	5

This is really a low standard. Cream for table use should always contain more than 18 per cent. Many restaurants, however, serve their patrons with cream very low in fat, and sometimes milk is served in place of cream, although the menu card indicates that cream should be served. Several cases of such violations of the pure food law were brought to the attention of the Laboratory. Five samples were collected by inspectors, with the result that 2 samples purporting to be cream were found to be far below the standard in fat, and in reality should have been labeled milk and not cream. The prosecution of these two cases, it is of interest to note, had a very wholesome effect on the restaurant-keepers.

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* California State Board of Health, 1908, p. 215.

CONDIMENT—CATSUP.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Catsup		5	5	10
August 1, 1909, to August 1, 1910—				
Catsup		23	8	31

A comparison of the results above tabulated for catsups, with those previously reported,* would seem to indicate that mislabeling and misbranding of this condiment is not decreasing. In the report referred to only 25 per cent of the samples examined were mislabeled or misbranded, while from the present showing, upwards of 70 per cent of the samples tested were thus in violation of the California pure foods law.

Commenting on these results, it may be said that a number of samples were collected from restaurants where bottles originally filled with a catsup containing no preservative had been refilled with another brand in which this preservative was used. In these cases there were therefore two violations of the law; one in failing to state the presence of benzoate of soda in the catsup, and the other in refilling the bottles. The law in this connection reading, "that a food shall be deemed mislabeled if the contents of the package as originally put up shall have been removed in whole or in part and other contents shall be placed in such package."

Benzoic acid, or its compounds, as is well known, in accordance with Food Inspection Decision 104, is allowed in foods or food products, provided the presence and amount is plainly stated on the label. Only one third of the samples submitted were found not to be in violation of the pure foods act.

CONDIMENTS—MISCELLANEOUS.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Condiments, miscellaneous	1	9	11	21
August 1, 1909, to August 1, 1910—				
Condiments, miscellaneous		4	5	9

Of the above 30 samples 11 were found to have complied with the law. Only one sample was declared adulterated by reason of it containing salicylic acid. The mislabeling occurring in 13 samples was due mainly to the fact that the manufacturer had used benzoate of soda and failed to make such a declaration on the label. In only one case was the presence of coal-tar color the cause of the violation.

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* California State Board of Health, 1908, p. 214

CONDIMENT—PREPARED MUSTARD.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Prepared mustard		32	1	5	38
August 1, 1909, to August 1, 1910—Prepared mustard		29		13	42

This set of results stands out prominently in the large proportion of samples examined found to be in violation of the law. The infringement in 52 cases was due to a desire to improve the color of the mustard, without declaring the use of the coloring matter so employed on the label. One sample was grossly adulterated, in that cereals had been largely used to replace the mustard.

CONDIMENT—SALAD DRESSING.

Material.	Number adulterated	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Salad dressing		2	4	6
August 1, 1909, to August 1, 1910—Salad dressing		2		2

No extended study was made of salad dressing. Of the 8 samples submitted, 4 were found to be mislabeled. Benzoate of soda was detected in two, and coal-tar colors in two others. The failure to declare the use of these materials constituted violations of the California pure foods act.

CONDIMENT—SAUCE, MISCELLANEOUS.

Material	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Sauce, miscellaneous		2	11	13
August 1, 1909, to August 1, 1910—Sauce, miscellaneous		2	4	6

Nineteen samples of miscellaneous sauces were received at the Laboratory; of these, 4 were discovered to contain benzoate of soda without any indication on the label of the presence of this preservative. Fifteen samples were passed as complying with the law.

CONDIMENT—PICKLES.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Pickles, sweet	1	6	3	10
Pickles, sour		4	1	5
Totals	1	10	4	15
August 1, 1909, to August 1, 1910—				
Pickles, sweet		6	3	9
Pickles, sour		1	4	5
Totals		7	7	14

Here again in connection with this condiment benzoate of soda is found to be the chief cause of the infringement of the law. Of the 29 samples analyzed, 15 were condemned on account of the undeclared presence of this chemical used as a preservative. In one sample saccharin was the cause of the violation, and in still another it was due to the use of the nonpermissible preservative salicylic acid.

CONDIMENT—SAUCE, WORCESTERSHIRE.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Sauce, Worcestershire	1		10	11
August 1, 1909, to August 1, 1910—				
Sauce, Worcestershire		1	3	4

Only a small proportion of the samples of Worcestershire sauce were proven, on analysis, to be in violation of the law. Salicylic was detected in one case, and incorrect labeling as to place of manufacture was noted in another. Thirteen samples were shown to comply with the California pure foods act.

EGGS.

Material.	Number adulterated.	Number Mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Eggs		1	2	3
August 1, 1909, to August 1, 1910—				
Eggs		30	3	33

The above table shows the result of work on samples taken previous to August 1, 1910. Thirty-one out of 36 were mislabeled, in that the wording would lead the purchaser to consider them fresh eggs, while many of them were four to eight weeks old.

During the session of the legislature of 1908-1900 an amendment to section 6 of the California pure foods act was passed reading:

> *Sixth.*—If, having no label, it is an imitation or adulteration, or is sold or offered for sale under a name, designation, description or representation which is false or misleading in any particular whatever; and in case of eggs and poultry; if they have been kept or packed in cold storage, or otherwise preserved, they must be so indicated by written or printed label or placard plainly designating such fact when offered or exposed for sale.

The object of this amendment, as far as poultry and eggs are concerned, being to prevent cold storage articles of this kind being sold as fresh, the taking of samples did not begin until the season for cold storage eggs to appear on the market, which is fall.

The first hearings brought out such a difference of opinions and interpretations among the dealers that a suspension of prosecution was agreed upon until a ruling should be made by the Board of Health.

As a preliminary measure to such a ruling an extended investigation was entered into at the State Laboratory with the view of developing the best methods of determining the age, condition, etc., of the eggs.

The ruling of the Board of Health on this part of amendment sixth will be found in full in the Monthly Bulletin of the State Board of Health for March, 1910, copies of which can be obtained upon application to the Secretary of the State Board of Health.

The taking of samples of eggs in any large numbers was thus delayed until the fall of 1910, too late for the results to be shown in this issue, but the report of work of 1910-11 will contain a large and interesting set of results.

EGG PRODUCTS.

Material.	Number adulteratad.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Egg paste				
Egg compound				
August 1, 1909, to August 1, 1910—				
Egg paste			1	1
Egg compound		1		1
Totals		1	1	2

But two samples of egg pastes and compounds were sent to the State Laboratory for analysis. One was mislabeled in that the nutritive value was far below that indicated by the statements which appeared on the label.

EXTRACTS—FLAVORING.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act	Total.
August 1, 1908, to August 1, 1910—					
Lemon		2	37	11	50
Vanilla			18	26	44
Vanilla substitutes		11		8	19
Raspberry		6		3	9
Strawberry	1	5		2	8
Miscellaneous		4		9	13
Totals	1	28	55	59	143
August 1, 1909, to August 1, 1910—					
Lemon		7	30	37	74
Vanilla		6	3	17	26
Raspberry		2	2	1	5
Strawberry		1		1	2
Peppermint		1	4		5
Miscellaneous		5	1	7	13
Totals		22	40	63	125

A decided improvement is manifest in the condition of the flavoring extracts over the findings previously reported.* It was there shown that only 25 per cent of the samples tested complied with the law. During the period of August 1, 1908, to August 1, 1909, the corresponding figure is 41 per cent and the analyses recorded for the following year indicate, as seen from above data, that 50 per cent of the samples were passed.

The violations with reference to lemon extract were mainly due to the low content of oil as compared with that required by the standard. In many cases this was the result of ignorance of the fact that dilute alcohol will not dissolve 5 per cent of lemon oil. Some manufacturers dissolve a sufficient quantity of oil in strong alcohol, which, if made up to a gallon, without reducing the strength of the alcohol below 80 per cent, would fully meet the requirements of the standards. Too much water, however, is added, and this brings about a turbidity which is gotten rid of by adding some substance, such as magnesium carbonate and filtering. The result being a clear liquid, but one containing little of the original oil, most of which is to be found in the residue from filtering.

A few samples were misbranded, in that artificial color was detected, while no mention of this fact was made on the label. The infringement here in some cases was due to the bottles failing to contain the quantity of extract stated on the label. It will be noticed that about 61 per cent of the samples of vanilla extract were not in violation of the law. The failure to comply in most cases consisted in the sale of extracts deficient in vanilla resins and also containing coumarin. The mislabeling of the vanilla substitutes constituted a violation of the law in that the purchaser was misled and deceived into the belief that the extract was pure vanilla.

In the case of peppermint extract, 4 samples were found to be below standard in oil of peppermint, and one to contain a nonpermissible coal-tar color. The findings of the analyses of the other samples of extract above tabulated indicates that the main reason for not complying with the law was due to the use of coal-tar color and failure to declare such fact on the label.

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* California State Board of Health Report, 1908.

FISH.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Fish	2	----------	8	10
August 1, 1909, to August 1, 1910—				
Fish	5	----------	17	22

It will be seen by the above label that only a small number of samples of fish were received at the laboratory. One specimen of canned fish proved to be putrid, and the entire consignment, of which the samples examined was representative, was condemned as unfit for human food. Seven of the samples of dried fish contained borax.

FLOURS.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Flour, miscellaneous	----------	----------	----------	5	5
Flour, gluten	----------	7	----------	2	9
Flour	----------	----------	----------	6	6
Totals	----------	7	----------	13	20
August 1, 1909, to August 1, 1910—					
Flour, miscellaneous	----------	1	----------	6	7
Flour, gluten	----------	2	----------	----------	2
Totals	----------	3	----------	6	9

The standard for gluten flour requires that it shall contain 5.6 per cent nitrogen. Of the 11 samples submitted to the State Laboratory, only two met the requirements of the standard, the others all being low in nitrogen, which represents the albuminoids or proteids.

Of the 19 other samples of flour analyzed only one was found to be in violation of the California pure foods act. The package was labeled wheat flour. The presence, however, of foreign starch was detected.

FRUIT.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Fruit	----------	3	8	11
August 1, 1909, to August 1, 1910—				
Fruit	----------	3	5	8

As indicated in the above table, but nineteen official samples were submitted by the inspectors. These included preserved cherries, olives, canned pears and peaches. Three samples of olives were in violation of the law in that the label bore false statements as to place of production. One lot of canned peaches was discovered to be short weight. A statement of the weight or measure of the food contained in a package is not required, but if any such statement is printed, it shall be a plain and correct statement of the average net weight or volume.

GELATINE COMPOUNDS.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909— Gelatine		7	6	13
August 1, 1909, to August 1, 1910— Gelatine		1	2	3

Sixteen official samples of gelatine compounds employed in the preparation of puddings, desserts, etc., were submitted. Of these just one half proved on examination and analysis to be in violation of the law. The infringement being chiefly due to the use of permissible artificial colors in imitation of the natural fruit color without any such declaration appearing on the label. The purchaser is consequently led to believe that the color is due to that of the fruit indicated by the wording on the label.

HONEY.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909— Honey		4		7	11
August 1, 1909, to August 1, 1910— Honey			8	10	18

The above table is interesting in showing the tendency still existing to adulterate honey with glucose. The amount of this ingredient found varied from 30 to nearly 60 per cent, while no mention was made on the label of such addition to the honey. There is no objection to the sale of a mixture of honey and glucose or glucose and honey provided the label is properly worded. If more than 50 per cent of glucose is contained in mixture the label should read "Glucose and Honey." If in the other brand the amount of honey exceeds that of glucose then the label "Honey and Glucose" would be unobjectionable. This is in accordance with Food Inspection Decision No. 75.

ICE CREAM.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909— Ice cream			8	10	18
August 1, 1909, to August 1, 1910— Ice cream			5	8	13

Of the thirty-one samples of ice cream tested at the Laboratory, thirteen were in violation of the California pure foods act. The product in twelve cases was found to contain too little fat. The standard calls for 14 per cent fat. Some of the samples showed less than 8 per cent of this ingredient. The results of the examinations also indicate the presence of gelatin without the declaration on the label of the use of this material. From a hygienic standpoint there is no objection whatever to the addition of a small amount of gelatin to ice cream; but when such additions are made, the fact must be stated on the label in order to conform to the provisions of the law. Similarly with respect to the addition of allowable coloring matter to ice cream.

JELLIES, JAMS, ETC.

Material.	Number adulterated	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909— Jelly, jams, etc.		27	22	49
August 1, 1909, to August 1, 1910— Jelly			1	1

It is to be regretted that the above table does not present the results of any extended investigation of jellies, jams, etc. Only a few samples were tested, but as these were typical and included the general forms of mislabeling the findings are perhaps of more importance than would be indicated by the mere number of samples submitted. The main cause of infringements was mislabeling due to the fact that the product as sold or offered for sale was a mixture of two or more jams or jellies while the label did not indicate any such mixture. The purchaser was led to believe that the article sold consisted of one kind of jelly or jam only. The law fully countenances the sale of mixtures of jellies and jams provided the label be plainly worded in this connection.

Artificial coloring is also allowed, by use of permissible colors, provided the label plainly indicates such use.

LARD.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909— Lard			2	3
August 1, 1909, to August 1, 1910— Lard			3	2

Two samples of lard were submitted by the inspectors to the laboratory, due to the statement made that the lard was suspected of containing beef tallow. A careful chemical and microscopical examination of the samples, however, showed that the lards in question were pure. The lard as largely used on the Pacific coast comes from establishments which are under Federal inspection. This inspection is so rigid and the outputs of the different establishments so well watched, and samples analyzed by the chemical laboratory of the bureau of animal industry, that the state laboratory does not deem it necessary to investigate such products, the consumer being amply protected by the Federal inspection.

LIQUORS.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Liquors				8	8
August 1, 1909, to August 1, 1910—					
Liquors			4	6	10

The examination of whiskey and distilled liquors was not undertaken on account of an investigation being carried on by the United States government in this connection. Until the ruling was received as a result of such investigations the State Laboratory had no basis upon which to work.

Food Inspection Decision 113, under date February 16, 1910, defines whiskey as follows:

> Under the food and drugs act of June 30, 1906, all unmixed distilled spirits from grain, colored and flavored with harmless color and flavor, in the customary ways, either by the charred barrel process, or by the addition of caramel and harmless flavor, if of potable strength and not less than 80 degrees proof, are entitled to the name of whiskey without qualification. If the proof be less than 80 degrees, *i. e.*, if more water be added, the actual proof must be stated upon the label and this requirement applies as well to blends and compounds of whiskey.

In accordance with the above, it was found that of the eighteen samples received in the laboratory, four were mislabelled, in that the quantity of alcohol was below 80 degrees proof, such deficiency not be declared on the label.

MEATS—MEAT FOOD PRODUCTS.

Material.	Number adulterated	Number mislabeled	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Meats, canned	6		61	67
Meats, hamburger steak	31		25	56
Meats, bologna sausage	3	3	2	8
Meats, frankfurter sausage	6	4	4	14
Meats, sausage	12	3	23	38
Meats, sausage, salami	3		8	11
Totals	61	10	123	194
August 1, 1909, to August 1, 1910—				
Meats, canned	2	1	6	9
Meats, hamburg steak	22		26	48
Meats, bologna sausage	3		4	7
Meats, pork sausage	5			5
Meats, chicken, cold storage		5	1	6
Beef extract			1	1
Totals	32	6	38	76

During the period covered by this report, 76 samples of canned meats were examined. Of this number 67 passed and 9 were found to be in violation of the law, in consequence of their containing preservative agents.

Of the 104 samples of chopped meat or hamburger steak examined, 51 passed and 53 were found to contain preservatives.

The infringement of the law, in the case of bologna sausage were of two kinds. Three of the 15 samples examined contained the allowable addition of a cereal, but which addition was not found declared on the label. Two contained a preservative and four a coal-tar color, which had penetrated to the substance of the sausage, while the law only permits its use when restricted to the membrane covering the meat.

Not one of the samples of pork sausage taken were passed. Three were found to be adulterated with beef and two contained a non-permissible preservative.

Fourteen samples of franfurters were taken and only four passed. Four contained a cereal not declared on the label; two contained a preservative and coal-tar color; three contained preservative and one a non-permissible coal-tar color.

Salami sausage made a better showing, as only three out of eleven samples were in violation on account of a contained preservative not allowed. Of the 38 samples of other sausage examined, 23 passed and 15 were found to be in violation of the law. Twelve out of the 15 contained a preservative and three were mislabeled on account of containing an undeclared cereal.

Only one sample of beef extract was examined, and that one was passed.

PRESERVATIVES—MEAT.

Material.	Number adulterated	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—Preservatives, meat		1	4	5
August 1, 1909, to August 1, 1910—Preservatives, meat				

In accordance with the provisions of the California pure foods act, the only preservatives allowed in meat or meat food products are common salt, sugar, wood smoke, vinegar, pure spices and saltpeter. Benzoate of soda is allowed in accordance with Food Inspection Decision No. 104, provided the presence and amount used are stated on the label.

Five samples of preservative mixtures for use in meats and meat food products were examined with the result that four were passed and one found to contain sulphites.

MILK.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Milk				
Milk, buttermilk			2	2
Milk, certified		1		1
Milk, condensed			31	31
Milk, malted				
Totals		1	33	34
August 1, 1909, to August 1, 1910—				
Milk	16		21	37
Milk, buttermilk				
Milk, certified				
Milk, condensed			4	4
Milk, malted		2		2
Totals	16	2	25	43

The examination of milk as above indicated, included analyses of ordinary milk, buttermilk, condensed milk, malted milk and certified milk.

The testing of samples of ordinary milk was undertaken on account of complaints having been received in the laboratory from patrons of restaurants, who claimed that the milk served was poor. Of the 37 samples collected, 16 proved to be below State standard (3 per cent) in fat. No preservatives were found. In view of the fact that in nearly all cases the local Board of Health supervised this line of work, very little is carried on by the State Laboratory.

With reference to certified milk it is a matter for congratulation that at the last session of the legislature (1908-09) an act was passed regulating the production and sale of certified milk, reading in part:

> SECTION 1. No person shall sell or exchange, or offer or expose for sale or exchange, as and for certified milk any milk which does not conform to the regulations prescribed by, and bear the certification of a milk commission appointed by a county medical society organized under and chartered by the medical society of the State of California and which has not been pronounced by such authority to be free from antiseptic, added preservatives and pathogenic bacteria, or bacteria in excessive numbers. All milk sold as certified milk shall be conspicuously marked with the name of the commission certifying it.

Only one instance of mislabelling in this connection was discovered. In the case of malted milk the violations were due to mislabeling as to place of production.

With reference to condensed or evaporated milk it may be said that the State standard is as follows: ''Condensed milk or evaporated milk in a whole milk from which a considerable of water has been evaporated and contains not less than twenty-four and five-tenths (24.5) per cent of milk solids, including not less than seven and seven-tenths (7.7) per cent milk fat.'' This is slightly lower as regards the total solids than the Federal standard, which calls for twenty-eight (28) per cent. Thirty-five samples of evaporated milk examined by the State Laboratory were found to meet the requirements of the new standard as above stated.

OILS—EDIBLE.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Oils, edible			5	9	14
August 1, 1909, to August 1, 1910—					
Oils, edible			1	2	3

There were seventeen samples of oils examined. Eleven of these were passed and six were found to be mixed with cotton seed oil, not declared upon the label.

This form of violation is in the nature of a fraudulent rather than a deleterious one. Cotton seed oil is a good food material, but being much cheaper than olive oil, and not having the same reputation for either nutritive or medicinal value, its undeclared presence is a case of extreme fraud practiced upon the purchaser.

PASTES.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Macaroni		3		3	6
Noodles, etc.		3		11	14
Pastry				5	5
Totals		6		19	25
August 1, 1909, to August 1, 1910—					
Macaroni				1	1
Noodles			1	2	3
Totals			1	3	4

Of the seven samples of macaroni examined four were passed and three were found to be mislabeled. In some instances the boxes were labeled twenty-five pounds while in actual fact they contained less than twenty pounds.

Only four of the 17 samples of noodles were found to be in violation of the law. Of these, one was short weight, one was labelled "egg noodles" while upon analysis, no egg was found, and two contained coal tar color, not declared upon the label. The use of this dye was to stimulate an egg color, and cause a misapprehension, with out so labelling the package.

All of the five samples of cornucopias examined were passed.

RICE.

Material.	Number adulterated.	Number mislabeled	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total
August 1, 1908, to August 1, 1909—					
Rice					
August 1, 1909, to August 1, 1910					
Rice			6	12	18

In accordance with Food Inspection Decision 67, it is held by the Department of Agriculture that rice treated either by polishing with talc or glucose, or by any other means, or by coating with calcium carbonate or any other material, should be labeled in all cases with the name of the extraneous substance, as "Coated With Glucose and Starch." In such declarations all of the food substances used for coating should be mentioned. Any coloring matter or other substances that may be employed to change the tint of the rice should be declared on the label.

The question of the wholesomeness of paraffin, talc, or other non-food substances used is to be construed in such a way as to protect the health of those most susceptible to their influences. Rice is a diet often prescribed for those suffering from impaired digestion. The use of parraffin in such cases is at least of questionable propriety, and in the opinion of the department it should be excluded from food products.

SALT.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Salt, table			6	6
August 1, 1909, to August 1, 1910—				
Salt, table			1	1

The object in making the examination of these seven samples was to ascertain whether or not there were any truth in the rumor that this condiment was made a carrier for non-permissible preservatives, for the use of meat men and others. No justification for the opinion was here found, as all seven samples were passed as being pure.

SEED—BIRD.

Material.	Number adulterated	Number mislabeled.	Number not in violation of California pure focds act.	Total.
August 1, 1908, to August 1, 1909—				
Seed, bird				
August 1, 1909, to August 1, 1910—				
Seed, bird			1	1

The term "food," as used in the California pure food act, includes all articles used as food, drink, etc., by man or other animals. In accordance therewith, upon a complaint to an inspector, a sample of birdseed was collected and submitted to the laboratory, with the request that test be made for poisonous seeds. Microscopic examinations failed to detect any such.

SPICES.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Allspice			3	5	8
Cayenne pepper			1	14	15
Cinnamon			1	4	5
Cloves			4	4	8
Currie powder			1		1
Ginger			3	2	5
Mace			4	3	7
Marjoram			2		2
Mustard			4	6	10
Nutmeg			2	4	6
Pepper, black			8	20	28
Pepper, white			3	7	10
Sage				2	2
Thyme			1		1
Totals			37	71	108
August 1, 1909, to August 1, 1910—					
Allspice			7	3	10
Cayenne pepper				10	10
Cinnamon				3	3
Cloves			3	9	12
Currie powder				1	1
Ginger				3	3
Mustard		1	4	6	11
Nutmegs				3	3
Pepper, black				11	11
Pepper, white			1	4	5
Miscellaneous			2	6	8
Totals		1	17	59	77

An inspection of the above table shows that the infringements were due to adulteration and were in much larger proportion in some spices than in others. While 24 out of 25 samples of cayenne pepper were passed, only 42 out of 54 samples of the white and black peppers were found to conform to the law. Again, while the proportions of samples adulterated is high in the cases of allspice, clove, ginger and mace, it is very low with cinnamon and nutmeg. The adulterations are due in most cases to the use of cereals, olive pits, cornmeal, etc., and are fraudulent rather than injurious.

SUGARS—MAPLE AND CANE.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909— Sugars				8	8
August 1, 1909, to August 1, 1910— Sugars			5	5	10

The above record includes the analyses of 13 samples of maple sugar, 4 samples miscellaneous, and one of cane sugar. Five of the samples of maple sugar were found to be mixed with cane sugar, thus constituting a violation of the law. The five samples of other sugar complied with the pure food act.

SYRUPS.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Syrups, table		7	12	22	41
Syrups, flavoring	1	28		31	60
Totals	1	35	12	53	101
August 1, 1909, to August 1, 1910—					
Syrups, table			7	8	15
Syrups, flavoring		15		17	32
Totals		15	7	25	47

As indicated by the above data the maple syrups are too often mixed with cane syrup without any declaration of such mixture appearing on the label. The other table syrups show a large percentage of infringement in the matter of mislabelling as to contents of package.

With reference to flavoring syrups it may be said that the chief cause of violations of the law was due to the use of artificial permissible colors and flavors without any mention being made on the label. The purchaser being led to believe that the color and flavor were due to the fruit indicated. Six samples were found to contain benzoate of soda without any such declaration on label. Saccharine was detected in two samples. This is used as an artificial sweetener.

TEA.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act	Total.
August 1, 1908, to August 1, 1909—				
Tea				
August 1, 1909, to August 1, 1910—				
Tea			22	22

Twenty-two samples of tea were received for examination, the statement being made that the teas were colored and mixed with foreign materials. The examination, as above indicated, failed to reveal any infringement of the law.

VEGETABLES.

Material.	Number adulterated.	Number mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Vegetables		1		1
August 1, 1909, to August 1, 1910—				
Vegetables			2	2

Of the three samples of canned vegetables examined one was found to be short in weight.

VINEGARS.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—					
Vinegar, cider			9	7	16
Vinegar, miscellaneous				3	3
Vinegar, wine				1	1
Totals			9	11	20
August 1, 1909, to August 1, 1910—					
Vinegar, cider			44	132	176
Vinegar, malt			3	1	4
Vinegar, distilled, etc.			3	11	14
Vinegar, sugar				2	2
Vinegar, wine			5	2	7
Totals			55	148	203

Since the publication of the last report an amendment was passed which made the artificial coloring of vinegars an infringement of the law. In spite of this being a new decree, however, a very small percentage of samples were found to contain artificial coloring matter; only five infringements being due to this cause, while 59 were due to being below the standard which calls for four (4) per cent of acetic acid as a minimum. The total showing is a good one, as the table shows 159 samples passed as against 64 total infringements.

WATER.

Material.	Number adulterated.	Number mislabeled	Number not in violation of California pure foods act.	Total.
August 1, 1908, to August 1, 1909—				
Water, mineral		49	2	51
August 1, 1909, to August 1, 1910—				
Water, mineral		1	7	8

The findings of the above table are the result of the examination of mineral waters in relation to sections 4 and 5 of the California pure foods act, defining adulteration and misbranding. Out of 59 samples taken, 50 were found to be in violation of the law in that either a plain carbonated water was substituted for a mineral water, or else a mineral water of a different kind was substituted for the one asked for by the purchaser.

DRUGS.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure drugs act.	Total.
August 1, 1908, to August 1, 1909—					
Medicinal herbs, etc.	38			78	116
Miscellaneous drugs		14		13	27
Totals	38	14		91	143
August 1, 1909, to August 1, 1910—					
Paregoric		9		3	12
Witch hazel		1		2	3
Hydrogen peroxide				3	3
Corn remedies		2		2	4
Hydrochloric acid				3	3
Alcohol				4	4
Headache powders		5		6	11
Cold cures, cough syrups		5		1	6
Tinctures, miscellaneous		10	4	9	23
Fluid extracts, etc.		3		5	8
Lime water	2				2
Bay rum		1		2	3
Camphor, spirits of		4		1	5
Miscellaneous		5		8	13
Totals	2	45	4	49	100

As indicated by the above data, two hundred and forty-three samples of drugs were examined at the laboratory during the period covered by the report. A large percentage of medicinal herbs in powdered form were adulterated by the admixture of foreign materials. In general, the mislabeling or misbranding of drugs was mainly found among patent medicines, paregoric, cough syrups, etc. The labels of these did not declare the presence of alcohol, opium, acetanilide and other narcotic drugs as by required by the Food Inspection Decision No. 112, being practically a revision of regulation 27 of the California pure food and drugs act. Several drug samples were mislabeled, in that their labels bore false and extravagant statements which were misleading and deceiving to the purchaser, thus constituting a violation of the pure food and drugs law.

SUMMARY OF ANALYTICAL WORK.

The following tables, summarize the analytical work done at the State Laboratory for the two years ending August 1, 1910:

Table showing Summary of Analytical Work, August 1, 1908, tò August 1, 1909.

Material.	Number adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
Beer				12	12
Bread				2	2
Butter	1	4		2	7
Beverage	4	18	8	39	69
Cheese	1			1	2
Chocolate and cocoa				3	3
Confectionery	7	23		61	91
Condiments–miscellaneous	1	9		11	21
Mustard, prepared		32	1	5	38
Pickles, sweet	1	6		3	10
Pickles, sour		4		1	5
Salad dressing		2		4	6
Sauce		2		11	13
Sauce, Worcestershire	1			10	11
Catsup		5		5	10
Eggs		1		2	3
Extracts, flavoring	1	28	55	59	143
Coffee				13	13
Coffee substitute		5		5	10
Colors	13	7		22	42
Fish	2			8	10
Flour				6	6
Gluten		7		2	9
Miscellaneous				5	5
Fruit		3		8	11
Gelatine		7		6	13
Honey		4		7	11
Ice cream			8	10	18
Jelly, jam, etc.		27		22	49
Lard				2	2
Liquors				8	8
Meats—canned	6			61	67
Hamburger steak	31			25	56
Bologna sausage	3	3		2	8
Frankfurter sausage	6	4		4	14
Sausage	12	3		23	38
Sausage, Salami	3			8	11
Preservatives		1		4	5
Milk—buttermilk				2	2
Certified		1			1
Condensed				31	31
Oils, edible			5	9	14
Pastes, etc.—macaroni		3		3	6
Noodles, etc.		3		11	14
Pastry				5	5
Syrups					
Table		7	12	22	41
Flavoring	1	28		31	60
Salt, table				6	6
Sugars				8	8
Spices			37	71	108
Vinegar			9	11	20
Vegetables		1			1
Waters, mineral		49		2	51
Drugs	38	14		91	143
Totals	132	311	135	785	1,363
Per cent	9.7	22.8	9.9	57.6	100

Table showing Summary of Analytical Work, August 1, 1909, to August 1, 1910.

Material.	Number Adulterated.	Number mislabeled.	Number adulterated and mislabeled.	Number not in violation of California pure foods act.	Total.
Butter		15		3	18
Beverages	1	5	1	13	20
Cereals	5			14	19
Confectionery		3		10	13
Cream	2			3	5
Coffee				6	6
Condiments—miscellaneous		4		5	9
Mustard, prepared		29		13	42
Pickles, sweet		6		3	9
Pickles, sour		1		4	5
Salad dressing		2			2
Sauce, miscellaneous		2		4	6
Sauce, Worcestershire		1		3	4
Catsup		23		8	31
Crackers				1	1
Eggs		30		3	33
Egg paste				1	1
Egg compound		1			1
Extracts, flavoring		22	40	63	125
Fish	5			17	22
Flour, miscellaneous		1		6	7
Flour, gluten		2			2
Fruit		3		5	8
Gelatine		1		2	3
Honey			8	10	18
Ice cream			5	8	13
Jelly				1	1
Lard				3	3
Liquors			4	6	10
Meats—canned	2	1		6	9
Hamburg steak	22			26	48
Chicken, cold storage		5		1	6
Bologna sausage	3			4	7
Pork sausage	5				5
Beef extract				1	1
Milk	16			21	37
Evaporated				4	4
Malted		2			2
Oils, edible			1	2	3
Olives		2			2
Pastes, etc.—macaroni				1	1
Noodles			1	2	3
Rice			6	12	18
Syrups, table			7	8	15
Flavoring		15		17	32
Salt				1	1
Seed, bird				1	1
Spices		1	17	59	77
Sugars			5	5	10
Tea				22	22
Vegetables				2	2
Vinegars			55	148	203
Waters, mineral		1		7	8
Drugs	2	45	4	49	100
Totals	63	223	154	614	1,054
Per cent	5.9	21.1	14.6	58.2	100

The most interesting part of the summaries lies in their comparison with each other and also with the summary of the work done during the first year of the existence of the State Laboratory.

The following small table shows this comparison very clearly:

Year.	Per cent adulteration.	Per cent mislabeled.	Per cent adulterated and mislabeled.	Per cent complying with the law.	Total.
To August, 1908	20.9	9.0	13.0	57.1	100
To August, 1909	9.7	22.8	9.9	57.6	100
To August, 1910	5.9	21.1	14.6	58.2	100

An inspection of the figures gives rise to an immediate question as to the possible reason or reasons for the percentage of adulterations, decreasing so quickly while the percentage of mislabeling increases. The explanation can in all probability be found in the following facts.

The greatest work accomplished by this department is undoubtedly the work of education, and it is always easier to teach some things than it is others.

An adulteration is never allowed under any circumstances and it is comparatively easy to impress the average mind with this fact. But the question of mislabeling is a complicated one, and many misapprehensions still exist among those who are not only willing but anxious to obey the law.

While it is now generally understood that the names of certain definite substances must appear on the label, there are still many other instances in which some manufacturers and dealers think that a substance that is *allowed* need not be mentioned. This is especially true of such things as benzoate of soda, permissible artificial colors and flavors, and the addition of cereal to meat food products, etc. It is also noticeable, that while the percentage of adulterations has decreased, the percentage of samples passed remains about the same. This speaks well for the alertness and intelligence of the inspectors, in spending no unnecessary effort in "worked out leads," but in continually changing the direction of their energies and prospecting new ground.

CONCLUSION AND RECOMMENDATIONS.

While the foregoing report indicates a more satisfactory showing than was presented at the last biennial report (1906-08), there remains much still to be accomplished in the State, in the matter of inspection, examination, and analysis of foods and drugs. This is evidenced by the fact that nearly one half of the foods and drugs examined are in violation of the law.

With the limited funds heretofore at the command of the laboratory, it has not been possible to thoroughly inspect the entire State, and it is to be regretted that there are some sections where there has been practically no inspection. At present there are only three inspectors regularly engaged in the work. This number should be increased to at least seven.

The personnel of the laboratory should be at least doubled. There should be at least four expert chemists in addition to the director, connected with the State Food and Drug Laboratory.

The above increase in the working force and other expenses, as indicated below, would necessitate an annual appropriation of $25,000, or $50,000 for the two fiscal years, 1911-13. This amount would be apportioned approximately as follows:

Five food inspectors, salary	$6,000 00
Three drug inspectors, salary	4,000 00
Expenses of inspectors for traveling, purchasing samples, etc.	5,500 00
Four laboratory assistants (analytical chemists)	4,800 00
One stenographer, one clerk	1,440 00
Chemical apparatus and supplies	2,000 00
Laboratory help, janitor work, etc.	600 00
Stationery, stamps, expressage, telephone service, etc.	660 00
	$25,000 00

It is confidently expected that with the facilities that would be afforded by the increased appropriation, that such thorough work could be carried on both as regards inspection and examination of foods and drugs, and educational work with the retailers that a smaller appropriation might suffice for this division of the board's work in the future.

It is to be hoped, however, that the State Laboratory may in the near future, also undertake research problems in animal nutrition, and not have to confine its labors entirely to police work.

Respectfully submitted.

M. E. Jaffa,
Director.

REPORT OF HYGIENIC LABORATORY.

W. A. Sawyer, M.D., Director.

The State Hygienic Laboratory in the biennial period ending June 30, 1910, has shown a decided increase in its efficiency in assisting the State Board of Health, the city and county health officers, and the local physicians to discover and suppress disease. The State Board of Health and the health officers receive through the laboratory early information of the discovery in new places of important infectious diseases as well as their prevalence and rate of spread. In many places the time of release from quarantine for diphtheria depends upon evidence from the laboratory that the throat no longer harbors the germs. The assistance given physicians in making definite diagnoses of their obscure cases of contagious disease hastens the application of appropriate treatment and consequently, by shortening the course of illness, lessens the chances of spread of the contagion to others.

The laboratory examines without charge, for the physicians of the state, cultures for diphtheria, sputum for tuberculosis, blood-smears for malaria, animals' brains for rabies (hydrophobia), feces for amœbic dysentery and hookworm, and dried blood for typhoid. When the Secretary of the State Board of Health finds that the examination of a sample from a given water supply would have a bearing on public health, the laboratory examines the water for evidence of pollution. In addition to the routine examinations mentioned, special investigations are undertaken as questions arise.

GROWTH OF THE LABORATORY.

During the past two years many more physicians and a decidedly larger number of communities have availed themselves of the services of the laboratory than during the preceding biennial period. The number of physicans who sent material to the laboratory for examination was 319, while the corresponding figures for the preceding two years were 267. Specimens were received from 121 towns, while in the previous biennial period 80 towns were served. These figures show that 40 per cent more communities availed themselves of the investigations of the State Hygienic Laboratory between July 1, 1908, and June 30, 1910, than from July 1, 1906, to June 30, 1908. It is expected that the development of branch laboratories and of an extensive system of depositories in drug stores for the distribution of mailing outfits will render the services of the laboratory easily and promptly available to every part of the State. Undoubtedly the next two years will find many more communities rendering their efforts to control disease more efficient through the use of the laboratory. The following table shows the rapid increase in the routine work from the establishment of the laboratory on July 1, 1905. to the present:

Table showing Increase in Number of Examinations July 1, 1905, to June 30, 1910.

	Rotine bitheria examinations.	Diphtheria examinations in special investigation	Malaria	Plague	Rabies	Tuberculosis	Typhoid	Water pollution	Miscellaneous	Total without special investigations	Total examinations
First year of the laboratory, July 1, 1905, to June 30, 1906	330	----	----	1	----	54	32	67	96	580	[1]580
Biennial period, July 1, 1906, to June 30, 1908	1,231	[2]5,009	----	[3]13	----	255	185	57	504	2,245	7,254
Biennial period, July 1, 1908, to June 30, 1910	2,793	[4]6,325	58	----	37	497	330	95	145	3,955	10,280
Totals	4,354	11,334	58	14	37	806	547	219	745	6,780	18,114

[1] One year only.

[2] Examinations in Lincoln school in Berkeley; school in Oroville; Hayward grammar school; school in Colfax.

[3] 1,844 rats from Berkeley were examined for plague at the laboratory during this period. The expense was borne by the town of Berkeley.

[4] Investigation of epidemic in the Southern California State Hospital at Patton.

If the few large groups of diphtheria examinations which were made in connection with special investigations are taken into consideration, the increase in the number of examinations of the last biennial period over those of the preceding one is from 7,254 to 10,280, a change of 42 per cent. Omitting from consideration the special diphtheria examinations, we find the change to be from 2,245 to 3,955, an increase of 76 per cent. This startling rate of growth of the regular work shows no sign of abating and indicates the necessity for an increase in staff and equipment.

DETAILED STATISTICS FOR JULY 1, 1908, TO JUNE 30, 1910.

The first of the following tables gives the number of regular examinations made during each month of the last biennial period. The second table gives the number of examinations and their results for each month of the second year of the same period:

Number of Examinations by Months and Diseases, July 1, 1908, to June 30, 1910.

	Diphtheria	Malaria	Rabies	Tuberculosis	Typhoid	Water pollution	Miscellaneous	Total
July, 1908[1]	48	--------	--------	13	17	--------	4	82
August, 1908	56	2	--------	13	18	--------	3	92
September, 1908	506	6	--------	17	12	--------	3	544
October, 1908	120	4	--------	16	7	--------	7	154
November, 1908	211	6	--------	18	7	2	14	258
December, 1908	179	--------	--------	23	10	4	4	220
January, 1909	94	--------	--------	23	11	1	9	138
February, 1909	89	--------	--------	22	7	5	11	134
March, 1909	64	1	--------	13	5	5	4	92
April, 1909	411	3	--------	27	3	3	6	453
May, 1909	175	3	--------	37	12	1	6	234
June, 1909	48	5	--------	17	9	6	6	91
July, 1909	25	--------	--------	20	15	8	3	71
August, 1909	30	3	--------	24	38	21	6	122
September, 1909	39	6	--------	13	13	17	6	94
October, 1909	30	3	--------	15	14	--------	11	73
November, 1909	51	4	12	20	18	--------	13	118
December, 1909	38	1	4	12	14	--------	6	75
January, 1910	151	5	3	29	12	5	3	208
February, 1910	84	2	6	20	13	--------	7	132
March, 1910	58	1	5	29	14	1	2	110
April, 1910	61	1	1	17	12	--------	3	95
May, 19 0	155	--------	4	28	19	7	4	217
June, 1910	70	2	2	31	30	9	4	148
Total	[2]2,793	58	37	497	330	95	145	[2]3,955

[1] Statistics for July, 1908, are incomplete.

[2] Not including 6,325 diphtheria examinations made at Patton in July and August, 1908. The total of all examinations is 10,280.

Number of Examinations and Results for Five Diseases by Months, July 1, 1909, to June 30, 1910.

	Diphtheria.			Malaria.			Rabies.			Tuberculosis.			Typhoid.		
	Positive	Negative	Total	Positive	Negative	Total	Positive	Negative	Total	Positive	Negative	Total	Positive	Negative	Total
July, 1909	4	21	25	----	----	----	----	----	----	4	16	20	5	10	15
August, 1909	3	27	30	----	3	3	----	----	----	3	21	24	9	29	38
September, 1909	3	36	39	----	6	6	----	----	----	1	12	13	1	12	13
October, 1909	2	28	30	----	3	3	----	----	----	3	12	15	5	9	14
November, 1909	5	46	51	1	3	4	10	2	12	6	14	20	5	13	18
December, 1909	7	31	38	----	1	1	4	----	4	3	9	12	6	8	14
January, 1910	23	128	151	2	3	5	1	2	3	8	21	29	5	7	12
February, 1910	5	79	84	----	2	2	2	4	6	10	10	20	2	11	13
March, 1910	6	52	58	----	1	1	1	4	5	10	19	29	4	10	14
April, 1910	5	56	61	----	1	1	1	----	1	5	12	17	1	11	12
May, 19 0	59	96	155	----		----	2	2	4	2	26	28	7	12	19
June, 1910	41	29	70	----	2	2	2	----	2	12	19	31	14	16	30
Totals	163	629	792	3	25	28	23	14	37	67	191	258	64	148	212

DIPHTHERIA.

The most generally appreciated function of the laboratory is the examination of throat or nose cultures for diphtheria bacilli. Bacteriological methods of diagnosis are recognized to be the only reliable means of obtaining conclusive evidence of the presence or absence of diphtheria. Cultural methods reduce to a minimum the number of cases which do not receive early the benefit of antitoxin owing to mistakes in diagnosis. The examination of cultures gives great assistance to the local health authorities in fulfilling their duties of establishing quarantine and deciding the time of release from isolation. The detection of "carriers," who distribute the germs although not ill themselves, can only be brought about through systematic culture-taking.

The handling of diphtheria epidemics by the closing of schools is in some communities giving way to the more rational method of discovering the small number of "carriers" through the systematic taking of throat and nose cultures, and enforcing isolation of those found to be dangerous. This method not only stops the transmission of infection at school without interrupting education, but also prevents the spread of the disease in the playground and on the street. For handling an epidemic in this way, painstaking work is necessary by the local investigators as well as by the laboratory bacteriologists.

During the two years 1908 to 1910, 2,793 examinations were made of cultures sent by physicians from various parts of the State. In addition, 6,325 cultures were made in July and August of 1908 by Miss Margaret Henderson of this laboratory in repeated examinations of the 1,200 inmates of the Southern California State Hospital at Patton. During this investigation 30 per cent of the people in the hospital were found at one time or another to harbor diphtheria bacilli. Systematic isolation of the individuals found by bacteriological examination to be dangerous was followed by suppression of diphtheria in the hospital. Miss Henderson's report of this investigation may be found in full in the twentieth biennial report of the California State Board of Health, pages 200 to 203.

Diphtheria should be better controlled in California, and the next step toward bringing this about should be directed toward the shortening of the delay in sending cultures to the laboratory. Up to the present time it has been impossible for the laboratory to give the physicians at a distance the prompt assistance which the welfare of their patients and the protection of their communities demand. Many physicians feel obliged to be content with clinical diagnosis of diphtheria on account of the length of time necessary for procuring culture tubes and containers in which bacteriological specimens can be legally mailed, and for sending specimens to the central laboratory. It is clearly the duty of the State to bring to a minimum in all parts of the State the time necessary for learning of the presence and distribution of diphtheria. If the necessary support is given, the laboratory will be able to bring this about. The time necessary for obtaining mailing outfits can be rendered unimportant by establishing in drug stores in all the larger towns systematically stocked depositories where physicians can obtain on application the free mailing outfits of the laboratory. The time necessary for transmitting cultures to the bacteriologist could be markedly shortened by maintaining branch laboratories in Los Angeles, Fresno, and some town in Northern California. The resident bacteriologists of the branches would be able to coöperate in the arduous task of eradicating epidemics of diphtheria by systematic culture taking from schools and other institutions. If the measures here proposed are made possible, the prevalence of diphtheria should show a decided decrease owing to the greater dependence on cultural diagnosis and to the rapidity of the receipt and application of information from the nearest state bacteriologist.

MALARIA.

The prevalence of malaria in three large areas of California has made this disease the cause of great economic loss as well as a destroyer of human health and life. The fact that this disease is one of the few which are very amenable to medicine makes it very important to the individual sufferer that his disease be recognized. That all cases of malaria should be discovered and cured by prolonged treatment with quinine is important to the uninfected members of the community since infection can only be received through the bite of a mosquito which has previously bitten a human being who has the parasites in his blood. It is evident that either the total destruction of the mosquitoes capable of carrying malaria or the complete cure of all the human cases in a given region would be sufficient to remove the disease. Therefore, an energetic campaign against mosquitoes carried on through draining or oiling the pools in which they breed should be supplemented by the curing of the chronic and acute cases which furnish the mosquitoes with the infection which they transmit. The laboratory offers its assistance in making the diagnosis of malaria through the examination of blood-smears sent by physicians. The discovery of the malarial organisms in the red corpuscles of the blood proves the diagnosis of malaria and justifies the treatment of the individual during the several months usually necessary for the permanent eradication of the disease.

Although malaria frequently offers great obstacles in diagnosis, being sometimes distinguished with difficulty from typhoid and other fevers, the physicians of the State as yet have sent few specimens of blood to the laboratory for examination for the presence of malarial parasites. During the past two years only 58 examinations of this kind have been made.

RABIES (HYDROPHOBIA).

The appearance and spread of rabies, or hydrophobia, in California has confronted the State Board of Health with a new and serious problem. This disease has for many years been specially prevalent in the eastern part of the United States and has occurred to a less extent in the central portions. Rabies was carried westward by infected dogs and probably to a certain extent by wild animals to Arizona, and finally the disease reached the Pacific Slope. Now rabies is prevalent in Southern California and has been proved to exist in the central part of the State.

A careful study of the history of "Rabies in Southern California" by Dr. Stanley P. Black and Dr. L. M. Powers, which appeared in the California State Journal of Medicine for November, 1910 (vol. VIII, p. 369), furnishes the following facts indicating that rabies existed in California as far back as 1898. In that year five or six dogs in Los

Angeles and a few near the city showed the symptoms of the disease, and in one case the diagnosis was confirmed by animal experimentation. A muzzling ordinance was enforced and no more rabid animals were seen in the city. In the spring of 1899 a fatal human case in Pasadena followed the bite of a spaniel. The diagnosis in this case was confirmed by animal inoculation. From 1899 to 1906 no cases were observed by Dr. Black or Dr. Powers. In 1906 at the Soldiers' Home, twelve miles from Los Angeles, a dog bit a man, five horses, several dogs and hogs. An examination of the dog's brain in Chicago resulted in the finding of the characteristic microscopic lesions of hydrophobia. The man who had been bitten took the Pasteur treatment. Of the animals which had been bitten, the dogs were killed and two of the horses and one hog developed rabies. In June and July of 1906 several dogs were killed in Los Angeles on account of being suspected of rabies, and in September a horse died of the disease. A microscopical examination of the brain of the horse proved the diagnosis. The disease spread rapidly during the following months. In November, 1909, an extensive outbreak of rabies appeared among the dogs of Pasadena and was checked by a muzzling ordinance.

The preceding historical statements of Dr. Black and Dr. Powers indicate the reasons for the investigation undertaken in the State Hygienic Laboratory in November, 1909. At the instance of Dr. Charles Keane, State Veterinarian, the Bureau of Animal Industry of the United States Department of Agriculture was asked to assist the state health officials in an investigation of the identity of the cases which were being reported. The bureau complied by assigning to duty at the State Hygienic Laboratory Dr. George H. Hart, an authority upon rabies. In conjunction with the laboratory staff he examined a number of dogs' heads which were sent to the laboratory, and found that several of them gave conclusive evidence of rabies.

The frequent appearance since November, 1909, of new cases in regions known to be infected and the appearance of the disease in new districts show that the present measures taken against rabies are inadequate. Positive results have been obtained up to November 11, 1910, in the examination of animals' heads received at the laboratory from Pasadena, Los Angeles, Stockton, Redlands, Highland, Riverside, Imperial, San Bernardino, Alhambra, Corona, and Concord.

The spread of the disease is due more to opposition to the enforced muzzling of dogs and the disposal of ownerless animals than to inactivity on the part of the health authorities. In many parts of the State health officers are doing their utmost to bring about control of the disease, but they are hindered by the opposition of dog owners who do not appreciate the fact that their animals are the chief sufferers from the disease as well as the only important factor in its perpetuation and transmission to horses, cattle, swine, cats, and people.

An additional obstacle is the reiterated assertion that the disease does not exist in California. These statements are still heard in spite of the known loss of dogs, horses, and cattle, and the death of two human beings from hydrophobia in Los Angeles in February and May, 1910. Conclusive evidence can be given by the State Hygienic Laboratory to show that the disease has been prevalent in certain parts of the State since early in November, 1909. Since then few months have passed without the discovery in the laboratory of evidence of the existence of rabies in California.

Through the kindness of Dr. L. M. Powers, Health Officer of Los Angeles, and of Dr. Stanley P. Black of the same city, the results of examinations for rabies in the City Laboratory in Los Angeles and in the Pathological Laboratory of Dr. Black, have been obtained, making it possible to gather together the results of the three laboratories which perform most of the examinations for rabies.

The State Hygienic Laboratory at Berkeley, from November 2, 1909, to November 11, 1910, examined the brains of 56 animals. Of these examinations 29 gave unmistakable evidence of rabies. Of the heads giving positive findings one was from a cat and one from a cow. The others were from dogs.

The Los Angeles City Laboratory previous to October 28, 1910, examined the brains of 87 animals, and found positive evidence of rabies in 54 of these. The examinations included the heads of horses, cattle, cats, and dogs. Many cases of rabies had been reported to the health office without laboratory diagnosis, bringing the total number of cases recorded up to 138. This larger number included 5 horses, 1 mule, and 1 person.

In the Pathological Laboratory of Dr. Stanley P. Black in Los Angeles, between January 1, 1910, and November 8, 1910, the brains of 43 animals were examined for rabies with positive results in 39. Of the brains giving evidence of the disease 5 were from cats and the remainder from dogs.

In the three laboratories mentioned the total number of examinations of brains for rabies was 186. Conclusive evidence of the existence of rabies was found in 122 of these cases.

Dogs' heads sent to the State Hygienic Laboratory for examination should be packed in ice just before being started by express. Heads sent in this way arrive in good condition, while the other methods of transmission have proved very unsatisfactory. Dogs suspected of being rabid, if they can be safely captured, should not be killed, but should be confined and cared for. If they remain well for ten days, rabies is not present. If they die, the Negri bodies have had time to develop in the cells of the brain, and the laboratory diagnosis becomes simplified and conclusive.

A letter should be sent at the time of the shipment stating the reasons for suspecting rabies, the region in which the suspected animal was found, the number of persons or animals known to have been bitten, and any other obtainable facts of interest. If it is desired that results should be telegraphed, collect, as soon as the examination is completed, this should be stated. A telegraphic report should always be requested when human beings have been bitten, so that the beginning of the Pasteur treatment for the prevention of hydrophobia shall not be delayed.

Within the biennial period ending July 1, 1910, 37 examinations were made of animals' brains for rabies. Of these examinations 23 were positive and 14 negative.

THE NEED OF A PASTEUR INSTITUTE.

The increasing prevalence of rabies in California has resulted in the biting of many human beings. The result has been three human deaths from this horrible disease and the administration of the Pasteur treatment to many others. The establishment of a Pasteur institute as a department of the State Hygienic Laboratory is indicated by the following considerations:

1. If it should become necesasry to establish in California a Pasteur institute for the treatment of persons bitten by rabid animals, it seems wiser that such an institution should be a part of the State Hygienic Laboratory than that it should be organized by private individuals on a commercial basis. It seems best that the diagnosis should be made and the treatments should be given by the same institution and that this institution should be under state control.

2. If a Pasteur institute is not established in California, the treatment of persons bitten by rabid dogs must depend on the United States Public Health and Marine-Hospital Service for the shipment of virus, or the patient must be sent to a Pasteur institute as far away as the institute at Chicago, St. Louis, Austin (Texas), Minneapolis (University of Minnesota), Madison (University of Wisconsin), or Ann Arbor (University of Michigan).

3. In case the virus is procured from Washington by telegraphing to the Surgeon General of the United States Public Health and Marine-Hospital Service, who sends the virus by mail and special delivery, a delay of at least six days is necessitated. The boy recently treated in Berkeley was bitten in the afternoon of October 25th, the dog's head was received at the State Hygienic Laboratory on October 26th, the results were reported and the virus telegraphed for on October 27th. It was 10 a. m., November 3d, when the arrival of the virus permitted the starting of the treatment. Fortunately, the wound was small and on an extremity. Otherwise this delay might have been serious.

4. If the diagnosis depended on the death of the diseased animal two or three days after the biting, or on inoculations made from the brain of a dog which had been killed at the time of the biting before the characteristic Negri bodies had developed in the brain sufficiently to be detected, the week's delay of sending to Washington for virus or the shorter loss of time due to sending the patient to an institution in the middle west might render the treatment futile.

5. During the eleven months preceding November 5, 1910, the Hygienic Laboratory of the United States Public Health and Marine Hospital Service in Washington, D. C., furnished the California State Board of Health with the material for 92 courses of Pasteur treatment. This means an average of 8.4 cases per month. At this rate there would be 100 cases in a year. Undoubtedly a private institution will soon be started in California if the State does not enter the field first. Information has been received that such an institution is now being planned.

6. The present situation seems to warrant the establishment of a Pasteur institute on the Pacific coast. The location of the State Hygienic Laboratory at Berkeley is sufficiently central for it to do the work for California, and, if necessary, for neighboring states.

7. The presence of the laboratory at the State University will give the director of the Hygienic Laboratory the opportunity of freely con-

sulting in regard to the scientific problems of a Pasteur institute with the scientists at the University of California. The newly appointed professor of pathology, Dr. Frederick P. Gay, recently instructor in Harvard University, has made a specialty of research in immunity, and therefore he is familiar with the scientific basis of the Pasteur treatment.

8. Dr. C. B. McGlumphy, the assistant in the State Hygienic Laboratory, was called here from the Pasteur institute at the University of Michigan, where he carried on the routine production of the virus and the treatment of the patients. He is prepared to do the same work at the State Laboratory.

9. The necessary increase in the expenses of the State Hygienic Laboratory would not be great, and could be in part defrayed by the fees of patients. In Michigan residents of the state are charged $25, while patients from the outside pay $100. These fees approximate the expenses of the institute. The work of the laboratory is increasing and soon will need the services of another assistant if Dr. McGlumphy has the additional duties of the institute. In the building which contains the State Hygienic Laboratory the additional space necessary for the Pasteur institute has already been provisionally granted by Dr. Gay.

The following letter from Dr. Frederick P. Gay, professor of pathology in the University of California, has a very direct bearing on the subject of starting a Pasteur institute:

UNIVERSITY OF CALIFORNIA, DEPARTMENT OF PATHOLOGY.
BERKELEY, November 1, 1910.

Dr. W. A. Sawyer, State Hygienic Laboratory.

DEAR DR. SAWYER: It gives me great pleasure to comply with your request for my opinion in reference to the advisability of establishing a local Pasteur institute for the treatment of rabies. As you doubtless know, we in this country, have been extremely negligent in taking active measures for the suppression of this serious malady, which is now epidemic in many parts of the United States, whereas in Europe, every country, and nearly every city of considerable size has its Institute for the preventive treatment of individuals who have been bitten by rabid dogs, where every adequate means for preventing the spread of the disease is taken.

Muzzling laws are, of course, imperative and if rigorously enforced will eventually suppress the disease. But experience has shown in Europe that it is almost impossible to enforce them thoroughly. For many years the few cases in this country were treated at private institutions at a cost of a hundred dollars or more to the patient, in addition to the expense of a considerable journey to the locality in which such an institution was situated. Some years ago the New York Health Board established a Pasteur laboratory and many cases were treated directly or indirectly by this board. A short time ago the Marine-Hospital Service in Washington also established a laboratory, which fact impresses on the thoughtful mind the prevalence of the disease and the importance of active measures to suppress it.

The Public Health and Marine Hospital in Washington is, I understand, willing to supply virus and to send it to any part of the country when the request is made through a board of health, and in most parts of the country this method of treatment is the only one which is feasible at the present time short of an expensive and time-consuming journey to Washington.

The Government, however, has never intended, I am told unofficially by Dr. Rosenau, late director of the Marine Hospital Laboratory, to supply the entire country for an indefinite period and certainly not for any considerable period in view of the marked increase in the disease. The governmental idea has been simply to standardize the method of treatment and impress the country with the importance of the disease. It seems therefore imperative from the point of supply that state laboratories should provide themselves with their own weapons for combating rabies. It is certain that at any moment it may be impossible for the Government to meet the demands from various parts of the country.

A second question of still greater importance lies in the material itself as it is now supplied by the Washington Laboratory. In the first place a necessary delay of from four to five days at least must be counted on before the virus can be obtained from Washington. As you well know the success of the Pasteur inoculation for rabies depends directly on the treatment beginning as soon as possible after the bite of a rabid animal. At the Pasteur Institute in Paris cases are not accepted for treatment after 21 days, and the sooner the case is treated the more certain is the cure, so that a delay of five days in waiting for the means of treatment is a serious one. Let us suppose, for example, that through some negligence, or other reason, the patitent did not present himself to you for treatment until two weeks after having been bitten. If you are obliged to wait another five days for the means of treatment, the possibility of saving that individual's life would be extremely problematical.

Virus, which is sent through the mails, although supposedly protected from contamination by glycerine is by no means so advisable for use in the treatment of cases, as virus which has been prepared on the spot by the individual who administers the treatment. It is particularly advantageous for the one who treats cases to have material which he has prepared himself, and concerning the virulence of which he has himself made the determinations.

It seems then to me highly desirable, not to say essential, that each state board of health and particularly one so remote from the source of supply as to the State Board of Health of California, should provide itself with the nucleus of a Pasteur institute for the treatment of sporadic cases of rabies which may occur within the State, and in order to forestall any sudden epidemic for which it might be impossible to secure any virus at all.

Very truly yours,

(Signed) FREDERICK P. GAY.

TUBERCULOSIS.

The definite diagnosis of tuberculosis is the first step necessary for the persuasion of an infected individual to take precautions against spreading the disease. In making examinations of sputum for the bacilli of tuberculosis the laboratory takes an important part in the general movement against a most destructive and widespread disease. Besides warning the patient to treat his disease in time, a positive sputum examination demonstrates to him the necessity of destroying the material which he expels from his mouth. A conscientious and well-informed consumptive is of little danger to those around him. The unrecognized case is a menace.

Specimens of sputum may be sent by mail in the special containers furnished by the laboratory.

Between July 1, 1908, and June 30, 1910, misroscopic search for the germs of tuberculosis was made in 497 specimens of sputum, an increase of 95 per cent over the number of examinations of the preceding two years.

TYPHOID FEVER.

In many communities of California typhoid fever is still prevalent. To discover the sources of the disease in a given epidemic it is necessary to begin by differentiating between typhiod and other fevers which imitate it. The presence of this disease can usually be discovered in the laboratory by the effect of a typhoid patient's blood on living typhoid germs. A drop of blood dried on the aluminum foil of the mailing outfit is sufficient material for the test. Similar examinations are made for the closely related diseases, the paratyphoid fevers. In some cases the Widal test was supplemented by a search for typhoid germs in cultures inoculated with a patient's blood.

The examination of blood for typhoid helps discover the wandering case of mild typhoid fever and the recovered "carrier." If such cases are discovered and kept from occupations involving the handling of food, they lose much of their danger.

The examination of water for pollution is of assistance in finding the source of infection.

During the two years ending June 30, 1910, the laboratory made Widal tests for typhoid of 330 specimens of blood. This part of the work shows an increase of 78 per cent in two years.

WATER EXAMINATIONS.

Although a sanitary survey of the region furnishing a water supply gives the most important information regarding the presence or possibility of pollution, a laboratory analysis of a sample of the water often gives valuable confirmatory or supplementary evidence. Pollution can frequently be detected by the bacteriological examination of water in the Hygienic Laboratory. The detection of bacilli coli in considerable number shows that the water is receiving pollution from human beings or animals. If the pollution is from human beings the danger of the transmission sooner or later of typhoid and other water-borne diseases is great.

The laboratory undertakes to make bacteriological examinations of water only upon instructions from the Secretary of the State Board of Health. When a water supply is suspected of being dangerous to public health, the local health authorities should be given an opportunity to investigate the source of the water. If they feel that the sanitary survey needs to be supplemented by laboratory examination, a request for a bacteriological examination should be sent to the Secretary of the State Board of Health in Sacramento. Whenever he finds that an analysis is justified, the laboratory will send an ice box, sterile bottles and directions for the taking of samples. Whenever possible a representative who can make a sanitary survey is sent out to take samples, but at present the laboratory staff rarely can spare a man for this purpose.

Between July 1, 1908, and June 30, 1910, examinations of 95 water samples were made at the laboratory. This number is 67 per cent larger than for the previous two years.

DISEASES OF ANIMALS.

From time to time examinations have been made for anthrax or glanders and have been classed in the reports as miscellaneous. Occasionally portions of tissue from cases of veterinary diseases have been received and have been referred to those members of the University staff who teach veterinary medicine. Some special provision ought to be made for the laboratory investigation of animal diseases. If this is not elsewhere provided for, the State Hygienic Laboratory should have attached to its staff a second bacteriologist who has had training in veterinary pathology.

INTESTINAL PARASITES.

Examinations of feces for amœbic dysentary or hookworm disease are carried on at the laboratory whenever specimens are sent for this purpose. Sometimes physicians find rare parasities or their eggs in the excreta of their patients. The laboratory will undertake to determine the nature of such parasites. The Director has often been indebted to the scientists in the various departments of the University of California for aid in such investigations.

GONOCOCCUS INFECTIONS.

It has been suggested that the State Laboratory should take part in the present campaign against gonorrhœa and syphilis by making laboratory examinations of smears of pus for the organisms of gonorrhœa and by making Wasserman tests of blood for syphilis. The first mentioned examinations could easily be added to the routine work. To have the Wasserman test performed in the laboratory by a trained assistant is a feasible plan and will be brought about if desired by the State Board of Health.

SPECIAL INVESTIGATIONS.

During the past two years (July 1, 1908, to June 30, 1910) a number of special investigations have been carried out by the laboratory staff. A partial list of these follows:

1. An investigation of a diphtheria epidemic at the Southern California State Hospital at Patton. Reported in the twentieth biennial report of the State Board of Health of California, pages 200 to 203.
2. An investigation of food supposedly the cause of the wholesale poisoning at the launching of the "Prometheus" at Vallejo. Reported in the Monthly Bulletin of the California State Board of Health for December, 1908, volume 4, pages 73–74.
3. An investigation of the value as a disinfectant of "Diozo." Reported in the Monthly Bulletin of the California State Board of Health for January, 1909, volume 4, pages 87–88.
4. An investigation of the antiseptic properties of "The Antiseptic Telephone Transmitter." Reported in the Monthly Bulletin of the California State Board of Health for February, 1909, volume 4, pages 98–102.
5. An investigation of the disinfectant power of the "C. C. C. Disinfecting Insecticide." Reported in the Monthly Bulletin of the California State Board of Health for May, 1909, volume 4, pages 137–138.
6. An investigation of the disinfecting power of "Hyco." This work was mentioned in the Monthly Bulletin of the California State Board of Health for June, 1909, volume 5, page 8. The unpublished report in full is on file in the State Hygienic Laboratory.
7. An investigation of the disinfecting powers of the "R. R. Rogers Disinfectant," the "R. R. Rogers Deodorizer," "1458" and "1459" (insecticides of the R. R. Rogers Co.). This work was mentioned in the Monthly Bulletin of the California State Board of Health for June, 1909, volume 5, page 8. The unpublished report in full is on file in the State Hygienic Laboratory.

The increase of the routine work in the laboratory is now making special investigation almost impossible. The addition of a second full-time bacteriologist would make it possible again to undertake without unreasonable delay the investigation of public health problems. The examination and exposure of fraudulent antiseptic substances and devices would prevent the public from wasting its money on inert substances which give a false and dangerous sense of security.

RESEARCH.

There are many diseases in California which are far from being understood. Systematic investigation with a view toward increasing our knowledge of these diseases and toward devising the most feasible methods for their control under the conditions existing in California should be an important part of the work of the State Hygienic Laboratory. An efficient research department could not fail to increase the weapons which are directed against disease. For example, the disease called infantile paralysis is now prevalent in a few communities of our State, our lack of knowledge concerning its cause and method of transmission prevents intelligent efforts to stop its spread. Whatever is discovered and published by the State Hygienic Laboratory immediately becomes the property of the whole country, and California should make some return for the information which other laboratories are constantly presenting to us.

BRANCH LABORATORIES.

Owing to the great size of California, and especially to its great length of nearly 800 miles as the bird flies, a central point like Berkeley is over 500 miles from the farthest corner of the State. Mountain ranges offer great difficulties in transportation and help make the central hygienic laboratory very inaccessible to many parts of California. Consequently, a considerable lapse of time is necessitated between the taking of a specimen by a physician in some inaccessible part of the state and its receipt at the laboratory. This delay is not very serious when the specimen to be examined is from some chronic or non-contagious disease. On the other hand, any delay in receiving the report concerning a culture from the throat of a person having diphtheria may result in the postponement of appropriate treatment by some physician who feels that there is not sufficient evidence of diphtheria to justify the administration of antitoxin without laboratory diagnosis. After the beginning of the disease every day's delay in giving the antitoxin for diphtheria has been shown by abundant statistics to cause a distinct increase in the mortality. Consequently, under the present conditions, physicians in many parts of the State find it necessary to decide from clinical data alone all questions dealing with the welfare of the patient. A late report on a culture would have a public health bearing, but would be of no benefit to the individual patient. It would also frequently permit the spread of disease owing to delay in establishing quarantine.

Considering the examinations for diphtheria and also the routine work for the diagnosis of typhoid, tuberculosis and malaria, and not overlooking the value of local field work, one can not fail to appreciate the necessity of the establishment of branch laboratories in several widely-separated parts of the State. Each branch should be established in one or two appropriate rooms in some building of ready access. The equipment need not be elaborate, but should be sufficient for all ordinary routine work. In charge of the branches should be placed a competent bacteriologist, and he should have as an assistant a stenographer or office worker, who could keep the office open, and receive specimens while the resident bacteriologist was away on some brief investigation in his district. A competent bacteriologist can not be secured and retained for any length of time for less than $1,500 a year. Adding to this a salary of $720 for the assistant, and allowing $780 for rent, equipment, and traveling expenses, one can readily see that each branch would require an annual appropriation of about $3,000.

On November 1, 1909, the nucleus for a southern branch was made possible by an arrangement in which Dr. Stanley P. Black for a merely nominal compensation generously agreed to examine in his laboratory diphtheria cultures and sputa for the State Hygienic Laboratory. If this southern laboratory were given the support which would justify the employment of a full-time bacteriologist and stenographer, the large area for which it does the work would soon begin to derive distinct benefit from a considerable increase in the use of the laboratory. A southern branch could easily handle the regular work for the following counties: Imperial, San Diego, Orange, Riverside, San Bernardino, Los Angeles, Ventura, Santa Barbara, and Inyo.

By making a special effort the laboratory has established in Fresno, since the close of the biennial period ending June 30, 1910, a branch laboratory, intended to do the routine work for the greater part of the San Joaquin Valley. The following counties comprise its field of work: Kern, Kings, Tulare, Fresno, Madera, Merced, Mariposa. The branch was started on August 1, 1910, under Dr. C. W. Bonynge, former assistant in the main laboratory in Berkeley. Since then the work has been efficiently carried on by Dr. Ernest Pring and Dr. R. A. Forrest. Until this branch is put on a stable financial basis, it will be difficult to retain able men in charge for any considerable length of time.

During the short period of existence of the Fresno branch it has been ably demonstrated that this substation is needed and appreciated. Cordial and efficient coöperation between the bacteriologists and the local health officers has resulted in the careful study and prompt suppression of several outbreaks of diphtheria and typhoid fever. With an effective system for the distribution of mailing outfits, the Fresno branch would probably soon rival the main laboratory in the total number of routine examinations.

In Fresno the need of an assistant to the bacteriologist has been amply demonstrated. The physician in charge was frequently asked to leave his office to make trips of investigation into regions where diphtheria or typhoid had appeared. This resulted in the laboratory being left locked up for hours and sometimes a day or two at a time. This is not right to the physicians who are being instructed to use the laboratory. There should always be some one present to receive specimens, give reports to physicians, and answer questions. It is proposed that an assistant be employed in each branch.

One of the investigations at Fresno consisted in tracing to their sources in the country several cases of typhoid. In some cases the sale of milk from the infected regions was stopped and the water supply in the afflicted districts was examined. One outbreak was traced to a polluted well by local investigations by the health officer and Dr. Pring and by a water analysis made in the main laboratory in Berkeley. Our representatives at Fresno have been glad to advise health officers and physicians on public health topics, and, as far as their time allowed, they have supported health officers in their earnest efforts to locate through field work the sources of contagion.

The northern part of the State should not be neglected. A branch ought to be established in some central community in the Sacramento Valley. Chico has been suggested as a suitable situation. This branch, as well as the one in Fresno, ought to have a decided influence in diminishing the frequencey of malarial infection in our great central valleys.

Three branch laboratories, situated in the Sacramento and San

Joaquin valleys and in the south, together with the main laboratory in Berkeley, would form a system which could render efficient and prompt service to the entire State.

DEPOSITORIES FOR MAILING OUTFITS.

In order that the State Hygienic Laboratory shall furnish the greatest possible assistance through its several stations it is necessary that mailing outfits shall be readily obtainable in any part of the State when need arises. A moderate sum of money will defray the expense of establishing in drug stores in every county depositories where the mailing outfits of the laboratory may be obtained. It is planned to give certain central drug stores in all the large towns an appointment as official depositories for the State Hygienic Laboratory. It is expected that druggists will be glad to render a free service to the physicians of their communities by keeping our outfits on hand for gratuitous distribution. A list of official depositories could be printed in the Bulletin of the State Board of Health and on a slip to be enclosed with mailing outfits or letters.

In order to insure keeping the depositories properly stocked with a variety of outfits, and especially to encourage the exchange of the diphtheria culture tubes before they become too dry, every druggist on our list should be communicated with at stated intervals. His reply would furnish us the information necessary for replenishing his supply.

The system of depositories, together with the proposed substations, would greatly shorten the time necessary for receiving laboratory aid, and consequently would greatly increase the work of the laboratory and its influence on the health of the people of the State.

LABORATORY STAFF.

During the biennial period from July 1, 1908, to June 30, 1910, several changes have taken place in the laboratory staff. Dr. Archibald R. Ward, the Director of the Laboratory, spent the year beginning July 1, 1908, on leave, in study and travel. During his absence Dr. George F. Reinhardt took charge of the laboratory. On May 1, 1910, Dr. Ward left the laboratory to take a position under the Government in the Philippines, and he was succeeded by the present director.

At the beginning of the period (July 1, 1908) Miss Elsie Cole took up the position of assistant, succeeding Miss Margaret Henderson, who gave up her position in the laboratory to give instruction in bacteriology in the University of California. On July 1, 1909, Miss Cole resigned her position, and Miss Dorothea Van Orden became assistant. From March 1, 1910, to July 1, 1910, Dr. C. W. Bonynge was assistant. Since July, 1910, Dr. C. B. McGlumphy, formerly assistant under Dr. Novy in the Pasteur institute at the University of Michigan, has held the position of assistant.

The present staff consists of:

Wilbur A. Sawyer, M.D.	Director.
C. B. McGlumphy, M.D.	Assistant
Stanley P. Black, M.D.	In charge of Southern Branch
R. A. Forrest, M.D.	In charge of Fresno Branch
Mary W. Meehan	Stenographer
Gilbert Sweet	Laboratory Helper

FINANCIAL NEEDS.

In order to carry on the work of the Hygenic Laboratory, as proposed in the preceding sections of this report, it will be necessary to expend $17,000 a year, or $34,000 for the coming biennial period. The increase in expenditure is due to the expense of maintaining three branch laboratories the outlay necessary for the purchase of mailing outfits and for expressage, the increase of the routine work and special investigations of the main laboratory, and the establishment of a Pasteur institute. A great increase in the purchase of mailing outfits and the cost of distributing them will be involved in the establishment of an extensive system of depositories. The increase of the routine work and special investigations of the main laboratory, even without the establishment of a Pasteur institute, demand the services of a second bacteriologist.

A summary of the needed expenditures follows:

Main Laboratory at Berkeley:	
Administration—	
Director's services (not included in estimates below)	
Stenographer's salary	$720 00
Bacteriological Laboratory—	
Bacteriologist's salary	1,500 00
Laboratory helper's salary	720 00
Pasteur Institute—	
Bacteriologist's salary	1,500 00
General expenses, including cost and distribution of mailing outfits for the laboratory and its branches, equipment, traveling expenses	3,560 00
Total	$8,000 00
Branch Laboratory in Fresno—	
Bacteriologist	$1,500 00
Stenographer or assistant	720 00
Equipment, rent, traveling expenses	780 00
	$3,000 00
Branch Laboratory in Southern California—	
Same items as for Fresno	3,000 00
Branch Laboratory in Northern California—	
Same items as for Fresno	3,000 00
Total for branches	$9,000 00
Total for laboratory and branches	$17,000 00
Total proposed expenditure of the State Hygienic Laboratory for the biennial period	$34,000 00

SUMMARY OF RECOMMENDATIONS.

In order to enable the State Hygienic Laboratory to fulfill the purpose for which it was founded and is being carried on, it is necessary that the marked increase of its regular work be recognized by sufficient support, and that opportunity be furnished for the development of the laboratory along new lines.

An additional bacteriologist should be added to the staff at the main laboratory in order that the routine work may be handled without preventing the carrying on of special investigations as occasions arise. This would permit some research along the lines of California's public health problems.

A Pasteur institute should be established as a department of the main laboratory in Berkeley before human deaths have occurred from the delay involved in the present system of obtaining the material for Pasteur treatments. The fact that the value of the Pasteur treatment depends on early administration, indicates the seriousness of the delay of from one to two weeks now necessary in California.

Three branch laboratories should be established in California. This would enable all parts of the State to receive the benefits of the laboratory. These laboratories should be stationed in Northern California, in Southern California, and in the San Joaquin Valley.

An extensive system of distributing depositories in drug stores should be established and maintained so that there shall be no delay in securing an outfit in which a specimen can be legally sent through the mails. The delay of several days in obtaining a culture tube for an examination for diphtheria may result in the death of the patient and in the spread of the disease from the unrecognized case.

The appropriation of the State Hygienic Laboratory should be increased to $17,000 per annum in order to permit the carrying out of the above recommendations.

FINANCIAL REPORT.

The California State Board of Health has expended for all purposes during the fiscal years 1908-1909 the following sums: Traveling and contingent, $7,047.77; pure food and drugs, $25,673.51; bacteriological laboratory, $6,696.11; printing, $4,244.75; tuberculosis, $2,150.61; contagious diseases, $38,205.19. Total, $84,017.94.

In explanation of the details of these expenditures the following statement with comments is given:

Traveling and Contingent Fund.

This fund is appropriated for the necessary traveling expenses of the Secretary and the other officers or employees of the board in carrying on its routine administration work, and for office stationery, stamps, equipment, extra clerical service, and for telephone, telegraph, and janitor service.

1908—Receipts.		1908—Expenditures.	
Unexpended balance from fifty-ninth fiscal year	$584 73	Quarter—July, 1908, to September Warrants Nos. 511, 917, 1,052, 1,837, 2,036, 2,855, 2,976, 3,004, 3,142, 3,272, 3,949.	$710 36
		Quarter October to December Warrants Nos. 5,181, 5,486, 5,614, 5,882, 6,195, 7,262, 7,424, 7,959.	831 86
Amount appropriated	2,500 00	Quarter January, 1909, to March Warrants Nos. 8,335, 9,900, 11,743, 12,981, 14,477, 16,029, 16,488, 17,060.	549 35
Fees, certified copies of deaths, births, and marriages	128 00	Quarter April to June Warrants Nos. 18,130, 18,396, 18,678, 19,782, 19,956, 20,141, 20,978, 21,306, 21,648, 252, 253.	1,121 16
Total	$3,212 73	Total	$3,212 73

1909—Receipts.		1909—Expenditures.	
Amount appropriated	$3,000 00	Stationery, supplies, and postage	$312 45
		Janitor service and repairs	134 13
		Telephone, expressage, telegrams, and other current expense	231 79
		Traveling expenses of secretary, and members of board	1,282 72
Fees, certified copies of births, deaths, and marriages	862 97	Salaries for vital statistics, and other clerical service	1,460 00
		Permanent equipment	413 95
		Total	$3,835 04
		Balance	27 93
Total	$3,862 97	Total	$3,862 97

The permanent office equipment items are an adding machine (the expense for which was proportioned among the several funds, the amount charged to this fund being $175.00); Dictation phonograph, $171.80; desk lamps and cords, $20.50.

Pure Food and Drug Fund.

This fund is appropriated for the maintenance of a laboratory to collect and examine food and drug products and enforce the regulations of the Pure Food and Drugs Acts.

1908—Receipts.		1908—Expenditures.	
Unexpended balance from fifty-ninth fiscal year	$3,853 21	Quarter—July, 1908, to September Warrants Nos. 208, 510, 1,456, 2,034, 2,285, 3,006, 3,273, 3,948.	$2,796 80
		Quarter—October to December Warrants Nos. 5,196, 5,197, 5,485, 5,616, 5,802, 6,224, 6,839, 7,423, 7,957.	2,609 05
Amount appropriated	10,000 00	Quarter—January, 1909, to March Warrants Nos. 8,389, 11,194, 11,744, 11,780, 14,476, 14,859, 15,027, 17,063.	3,335 03
Fines collected from violations of pure food and drug law	1,135 00	Quarter—April to June Warrants Nos. 18,305, 18,637, 19,805, 20,546, 20,979, 21,308, 21,649.	3,138 78
		Total	$11,879 66
		Balance	3,108 55
Total	$14,988 21	Total	$14,988 21

1909—Receipts.		1909—Expenditures.	
Unexpended balance from sixtieth fiscal year	$3,108 55	Salaries, office and laboratory staff	$4,548 10
		Salaries for inspectors	4,225 00
		Traveling expenses of inspectors and attorney	1,977 37
Amount appropriated	10,000 00	Printing, postage, expressage	546 95
		Laboratory supplies and equipment	2,001 98
Fines collected from violations of pure food and drug law	687 00	Sheriff fees	494 45
		Total	$13,793 85
		Balance	1 70
Total	$13,795 55	Total	$13,795 55

The balance for 1908, was carried forward from the original equipment fund, but had to be used in 1909 for additional equipment and current expense in order to carry on the work required of the Board, the expected appropriation of $30,000, having been cut at the last moment to $20,000. Upon the advice of the Governor every effort has been made to carry on the full work of the division. A deficiency appropriation of $10,000 will be necessary to carry on the work as at present planned by the Department of Foods and Drugs.

Bacteriological Laboratory Fund.

The appropriation of this fund is for the purpose of carrying on routine bacteriological examinations for the determination of diphtheria, typhoid fever, malaria, rabies, etc., and for assistance in epidemiological investigations.

1908—Receipts.		1908—Expenditures.	
Amount appropriated	$2,000 00	Quarter—October, 1908, to December	$764 22
		Warrants Nos. 5,198, 7,134.	
		Quarter—April to June	580 84
		Warrant No. 18,652.	
		Quarter—July to September	647 94
		Warrants Nos. 251, 3,691.	
		Total	$1,693 00
		Balance	7 00
Total	$2,000 00	Total	$2,000 00

1909—Receipts.		1909—Expenditures.	
Unexpended balance from sixtieth fiscal year	$7 00	Salaries of office and laboratory staff	$3,416 11
		Equipment	1,180 00
		Office supplies	248 20
		Printing	158 80
		Total	$5,003 11
Amount appropriated	5,000 00	Balance	3 89
Total	$5,007 00	Total	$5,007 00

The Tuberculosis Fund.

This fund is provided for the collection and dissemination of knowledge among the people of California as to the best means of preventing the spread of tuberculosis.

1908—Receipts.		1908—Expenditures.	
Unexpended balance from fifty-ninth fiscal year	$1,447 44	Quarter—October, 1908 to December	$253 67
		Warrants Nos. 5,615, 7,084, 7,132.	
		Quarter—January to March	633 25
		Warrants Nos. 11,781, 17,061.	
		Quarter—April to June	485 70
		Warrants Nos. 19,674, 19,940, 21,445.	
		Total	$1,372 62
		Balance	74 82
Total	$1,447 44	Total	$1,447 44

1909—Receipts.		1909—Expenditures.	
Unexpended balance from sixtieth fiscal year	$74 82	Purchase of educational literature	$500 00
		Stationery, press work, and supplies	114 71
		Miscellaneous supplies	163 28
		Total	$777 99
Amount appropriated	$2,000 00	Balance	1,296 83
Total	$2,074 82	Total	$2,074 82

Printing Fund.

This fund is appropriated for printing bulletins, reports, stationery, etc., for the State Board of Health.

1908—Receipts.		1908—Expenditures.	
Unexpended balance from fifty-ninth fiscal year	$748 75	Quarter—July, 1908 to September Warrant No. 2,892.	$71 25
		Quarter—October to December Warrants Nos. 3,995, 5.651, 6.861.	1,443 50
		Quarter—January, 1909 to March Warrants Nos. 8,043, 11,812, 15,073.	198 25
Amount appropriated	$1,500 00	Quarter—April to June Warrants Nos. 18,051, 19,572, 20,935, 423.	535 75
Total	$2,248 75	Total	$2.248 75

1909—Receipts.		1909—Expenditures.	
Amount appropriated	$2,000 00	Monthly bulletins	$1,330 00
		Stationery and binding	433 25
		Health laws	62 25
		Blank forms	170 50
		Total	$1,996 00
		Balance	4 00
Total	$2,000 00	Total	$2,000 00

Contagious Disease Fund.

This fund is appropriated to be used to prevent the introduction, and provide for the investigation and suppression of contagious or infectious diseases.

1908—Receipts.		1908—Expenditures.	
Unexpended balance from fifty-ninth fiscal year	$56,516 96	Quarter—July, 1908, to September	$5,774 01
		Warrants Nos. 292, 509, 1,454, 1,455, 2,035, 2,354, 3,007, 3,143, 3,947.	
		Quarter—October to December	5,399 63
		Warrants Nos. 5,494, 5,495, 5,001, 6,225, 6,840, 7,133, 7,958.	
		Quarter—January, 1909, to March	2,422 36
		Warrants Nos 11,195, 14,495, 17,062.	
		Quarter—April to June	3,054 06
		Warrants Nos. 18,636, 19,890, 20,545, 21,199 21,307, 21,656, 21,651.	
			$16,650 06
		Balance	39,866 90
Total	$56,516 96	Total	$56,516 96

1909—Receipts.		1909—Expenditures.	
Unexpended balance from sixtieth fiscal year	$39,866 90	Bubonic Plague:	
		Salaries, inspectors of the dead	$4,395 00
		Traveling expenses	1,149 90
		Expressage on squirrels	5,593 06
		Camp supplies	424 55
		Repairs and perishable equipment	1,380 30
		Permanent equipment	3,618 45
		General miscellaneous expense	914 20
		Typhoid Fever and Malaria:	
		Water surveys and epidemiological investigations	711 04
		Smallpox and Vaccination:	
		Traveling expenses and printing	16 00
		Sanitation Car:	
		Equipment and current expenses and field investigations of sanitary conditions of towns visited	3,352 63
			$21,555 13
		Balance	18,311 77
Total	$39,866 90	Total	$39,866 90

Respectfully submitted.

JOHN F. LEINEN,
Chief Clerk

SPECIAL REPORTS.

ON THE PREVALENCE OF HOOKWORM DISEASE.

San Francisco, Cal., October 27, 1910.

Dr. William F. Snow, Secretary California State Board of Health, Sacramento, California.

Dear Sir: I herewith submit report of the investigation of hookworm disease in the mines of Jackson, Amador County.

Attention was first drawn to the occurrence of the disease in this locality by Dr. F. F. Sprague, and later by Dr. E. E. Endicott. Both of these physicians believed that the infection occurred in the adjacent mines, but as the cases observed were all either in persons who had been exposed to infection in other parts of the world or in foreigners of not many years residence here—Italians, Austrians, or Cornishmen,—many of whom we know are infected with hookworm before coming to this country, it was necessary to obtain more conclusive evidence before it could be considered that the disease had gained a foothold here. Further, the fact that the disease has not been reported as originating in any mines in the United States, made it appear that we were dealing with imported cases only.

In order to prove conclusively that the disease occurred endemically in a mine it would be necessary to demonstrate larvæ in the soil from the workings, or to find the disease in a person who had not been exposed to infection elsewhere for at least seven years, and preferably ten years. On account of the wandering habits of many of the miners, and the very small number of Americans employed, very few men were available for the purpose of such investigation.

In mine No. 1 the results were as follows:

No. 1—F. Native of California; never out of this State; health good, except for occasional attacks of abdominal pain, due, it was believed, to chronic appendicitis. Ova hookworm present. Blood shows eosinophilia 15 per cent.

No. 2—M. Native of California; never out of State. Has been mining for just two years only, and has during that time always been employed in this mine. Health good. Ova hookworm present. Eosinophilia 13 per cent.

No. 3—K. Nativity? Not out of California during past forty-eight years. Resident of Jackson for last seventeen years. Health good, excepting for eruption on leg extending over considerable surface (a typical ground itch). Ova hookworm present. Eosinophilia 12 per cent.

No. 4—N. Nativity? Resident of California for twenty-five years. Employed in this mine for fifteen years. Stated that health has not been good for some time. Shows evidence of moderate anemia. Ova hookworm present in feces. Blood not examined.

No. 5—L. Nativity, England. Nine years in Jackson. Health, he states, is excellent, but there is quite an apparent anemia. Ova hookworm present. Eosinophilia 5 per cent.

No. 6—F. Italian. Eight years in California. Five years in Jackson. Unable to work for past five months on account of weakness. Ova hookworm present. Eosinophilia 12 per cent.

Specimens of earth were taken from various parts of the mine where conditions of heat and moisture were suitable for the development of the parasite, and in one hookworm embryos were demonstrated.

In mine No. 2 it was impossible to obtain feces for examination. Larvæ of hookworm were demonstrated in specimens of soil taken from the workings.

In mine No. 3 several cases were found, but none had been in California a sufficient number of years to be of any positive value for the purpose of this investigation. No examination made of the workings of the mine.

EXTENT OF INFECTION.

The men were looked over in mines 1 and 2 after they had finished work, and were bathing and changing their clothes. Evidence of the disease was everywhere to be seen. The peculiar color of the face, which is so often found in this disease, even where the blood shows but slight reduction in the hemaglobin, was observed quite generally. Quite a number showed moderate anemia, while occasionally it was quite pronounced. It should be borne in mind that we are now considering only those men who were able to work—those so ill that they were unable to work, will be referred to later. Several cases of ground itch were observed, the arms and hands being the most frequently affected parts.

On account of the difficulties in obtaining a sufficient number of stools to form an estimate of the percentage of infected persons in the mines, blood smears were taken and the eosinophiles counted with the following results:

Mine No. 1.—Specimens from 18 miners. Some men selected who showed evidence of disease. In all examinations 100 cells were counted and the Wright's stain or Oliver's modification of it were used.

Number.	Eosinophilia.	Per cent.
1	Eosinophilia	13
2	Eosinophilia	24
3	Eosinophilia	17
4	Eosinophilia	12
5	Eosinophilia	18
6	Eosinophilia	7
7	Eosinophilia	15
8	Eosinophilia	13
9	Eosinophilia	5
10	Eosinophilia	13
11	Eosinophilia	21
12	Eosinophilia	9
13	Eosinophilia	10
14	Eosinophilia	18
15	Eosinophilia	3
16	Eosinophilia	20
17	Eosinophilia	11
18	Eosinophilia	12

Number 9 was referred to previously as an infected case, with 9 years' residence in Jackson, so that the probabilities are that all of the eighteen are infected excepting possibly Number 15—with an eosinophilia of 3 per cent. Stools were also obtained from the following on this list and all contained ova of hookworm, numbers 4, 7, 8, 20.

Feces from 8 individuals in this mine showed 7 positive. The negative stool came from an assayer whose work until comparatively recently had been entirely above the ground. The infection in this mine it would appear is close to 90 per cent.

Mine No. 2.—Men showing evidence of the disease were in some cases selected.

Number.	Eosinophilia.	Per cent.
1	Eosinophilia	8
2	Eosinophilia	3
3	Eosinophilia	0
4	Eosinophilia	6
5	Eosinophilia	5
6	Eosinophilia	2
7	Eosinophilia	3
8	Eosinophilia	4
9	Eosinophilia	7
10	Eosinophilia	8
11	Eosinophilia	4
12	Eosinophilia	24
13	Eosinophilia	8
14	Eosinophilia	15

It was impossible to obtain stools from any on this list. The conditions in this mine were very good, there being less moisture throughout most of the workings than in the other mines. Yet from the appearance of the blood, 10 out of the 14 examined, or 70 per cent, should be looked upon with suspicion.

Mine No. 3.—Blood was taken from the first eleven men who happened along. No selection was made in any case, with the following result:

Number.	Eosinophilia.	Per cent.
1	Eosinophilia	5
2	Eosinophilia	11
3	Eosinophilia	7
4	Eosinophilia	14
5	Eosinophilia	6
6	Eosinophilia	14
7	Eosinophilia	20
8	Eosinophilia	14
9	Eosinophilia	0
10	Eosinophilia	15
11	Eosinophilia	5

Here it would appear that all but one are infected, or over ninety per cent. In number 10 and number 11, the only ones on this list from whom stools could be obtained, ova of hookwork were found to be present. Of course, it should be remembered in considering the increase in the eosinophiles that such might be due to infection with other parasites, but in the examination of all the stools that could be obtained, evidence of other parasites was generally lacking. In one case *Strongyloides intestinalis* were present, and in another, *Trichocephalus dispar.*

CONDITIONS IN THE MINES RELATIVE TO DEVELOPMENT OF THE DISEASE.

First—Temperature.

It has been shown that in mines with a temperature below 70 degrees Fahrenheit that the disease makes but little headway. In the mines of Jackson, in portions where the men are working, the temperature is usually kept, by forced draft, below 70 degrees Fahrenheit, but in abandoned portions and adjacent cross cuts, the only places where a man would be likely to deposit his excrement, the temperature was often as high as 80 or 90 degrees Fahrenheit.

Second—Moisture.

A sufficient amount of moisture was found in portions of all of the levels visited.

Disposal of excrement—Although there are rules in force against the contaminating of the workings with feces, it was not very difficult to find evidence that these rules had been broken. The arrangement for the use of the men of tanks in the shafts is open to criticism and is believed to be one of the modes of infection.

ECONOMIC ASPECTS.

There is no question that the general efficiency of the men is noticeably impaired. At one mine, employing about 300 laborers, it was stated that a reserve of about 25 men had to be available to replace those who on account of sickness did not appear for work. Quite a few of the men have to lay off every now and again to recuperate. Several who were unable to work stated that when they arrived in Jackson they were perfectly strong and well. A large number of these men were encountered on the streets, some of them presenting marked degrees of anemia.

The greatest loss to the mine operators is occasioned by the large number of those moderately affected. In one mine a superintendent who was infected, ascribed his somewhat poor physical condition to the results of an illness which occurred a couple of years ago. Another man occupying a responsible position had to be given a vacation every now and then on account of declining health. He presented a quite noticeable anemia, and on examination of the stools, showed a heavy infection. Any number of similar cases could be cited, but these examples should be sufficient to show very clearly that the average miner infected with hookworm can not do the work of a normal man. A loss of 20 per cent in the efficiency of those infected would be a conservative estimate. That would mean in mine No. 2, for instance, where over 300 men are employed at an average of about $2.50 per day, and estimating the number of those infected as low as 50 per cent, a loss of over $20,000 a year.

When it is remembered that nearly 30 per cent of all deaths in Porto Rico are due to hookworm disease, it is safe to say that directly and indirectly many have died from the infection contracted in these mines.

The danger of the disease being spread in the neighboring valley should be considered, especially as the sanitary arrangements for the disposal of sewage in the town of Jackson are very poor, and as many of the infected miners who are too ill to work in the mines live on nearby farms until recuperated.

The extent of infection throughout the gold mines of California can very readily be estimated. The conditions of heat and moisture, necessary for the development of the larvæ, are more or less the same in all of the mines and all employ the same class of labor. It is believed that it will be found that all of the mines of California are more or less infected, and that probably conditions will approximate those found in Jackson.

The same statement can be made for Virginia City, Nevada. While the mines of Sutter Creek, near Jackson, were not visited, cases which undoubtedly were contracted there were seen. The origin of the infection of the California mines undoubtedly extends back many years. It was probably introduced by laborers from Cornwall, Austria, or Italy, in which countries the disease occurs extensively in the mines.

It may be stated in summary:

1. That hookworm disease is endemic in certain mines of California.
2. That from 50 per cent to 80 per cent of those working in these mines are infected.
3. That the infection undoubtedly is present in practically all of the gold mines of California, and in those just over the border of Nevada.

In conclusion it should be stated that every assistance was rendered by Dr. Endicott, the county health officer; also that the mine operators aided the investigation in every way possible.

Respectfully,

(Signed) HERBERT GUNN.

REPORT OF ENGINEER-INSPECTOR.

Secretary's Note.—As stated in the report of the Secretary, the State Board has been carrying several experimental divisions of work with a view to determining the desirability of establishing permanent new departments—an engineering division has been among these. Mr. Baker is a field inspector, appointed in connection with the epidemiological work of the Board, but his training and his valuable coöperation with the Secretary has made possible the accomplishment of some valuable investigation and engineering surveys which are summarized below. For convenience in referring to this work the title of Engineer-Inspector has been used by the Board.

The work assigned to the Engineer-Inspector has covered the entire State, and may be summarized under the following explanatory headings:

1. Inspections made for the information of the Board in its investigation of stream pollution and the prevalence of typhoid fever, amœbic dysentery, and malaria.

Sacramento River and its tributaries above Sacramento—
Sisson.
Shasta Springs.
Shasta Retreat.
Mossbrae Tract.
Dunsmuir.
Kennett.
Redding.
Red Bluff.
Tehama.
Hamilton City.
Colusa.
Knights Landing.
Woodland.
Folsom.
Grass Valley.
Nevada City.
Colfax.
Auburn.
Oroville.
Marysville.
Chico.
Yuba City.

Merced River—
Yosemite Valley.
Wawona.
Merced.

Truckee River—
Truckee.
Ice Camps.

Salinas River—
- Castroville.
- Salinas.
- San Lucas.
- San Ardo.
- Gonzales.
- King City.
- San Miguel.
- Paso Robles.

Pajaro River—
- Pajaro.
- Watsonvile.

Russian River, and summer resorts—
- Ukiah.
- Cloverdale.
- Healdsburg.
- Eagle Nest.
- Rio Campo.
- Guerneville.
- Monte Rio.
- Monte Cristo.
- Mesa Grande.
- Duncan Mills.
- Camp Meeker.
- Russian River Heights.
- Guernewood Park.
- Guernewood Heights.
- Monte Sano.
- La Boheme.

2. Inspections to get general information as to sewage disposal and water supplies of the towns and cities of the state.

Los Angeles Beach Resorts—
- Santa Monica.
- Ocean Park.
- Venice.
- Playa del Rey.
- Hyperion.
- Hermosa Beach.
- Huntington Beach.
- Redondo.
- Alamitos Bay.
- Naples.
- Bay City.
- Long Beach.
- Balboa.
- Newport.
- San Pedro.

Southern California—
- Riverside.
- Pomona.
- San Bernardino.
- Redlands.
- Patton.
- Whittier.
- San Diego.
- La Jolla.
- Coronado.
- Corona.
- Sawtelle.
- Anaheim.
- Santa Ana.
- Pasadena.

Imperial Valley—
- Yuma, Arizona.
- Calexico.
- El Centro.
- Imperial.
- Holtville.
- Brawley.

San Joaquin Valley—
- Bakersfield.
- Porterville.
- Lindsay.
- Exeter.
- Reedley.
- Dinuba.
- Sanger.
- Clovis.
- Fresno.
- Kingsburg.
- Selma.
- Fowler.
- Madera.
- Turlock.
- Merced.
- Modesto.

Northern California—
- Williams.
- Vacaville.
- Willows.
- Orland.
- Santa Rosa.
- Sebastopol.
- Winters.
- Sonoma.
- San Jose.
- Santa Clara.
- Corning.
- Biggs.
- Hammonton.
- Camp California, Santa Cruz.

3. Special inspections and reports made on complaints and special requests from local communities in the State:

- Sausalito, special report on wells.
- Selma, special report on wells.
- Hayden Hill and Adin, special report on typhoid.
- Cupertino, special report on water.
- Sebastopol, special report on water.
- High Grove, special report on water pollution.
- Arbuckle, special report on typhoid.
- Corning, special report on typhoid.

Eldridge, special engineering report on sewage disposal.
Livermore, special engineering report on sewage disposal.
Riverside, dairy inspection.
Pomona, dairy inspection.
Roseville, dairy inspection.
Eagle Nest, special report on unsanitary conditions.
Guerneville, special report on river pollution.
Reedley, special engineering report on cesspool.
Hanford, special engineering report on sewer system.
Petaluma, October, 1909, special engineering report on sewage disposal.
Petaluma, October, 1910, special engineering report on sewage disposal.
Modesto, special engineering report on sewage disposal.
Hayward, special report on well pollution.
Richmond, dairy inspection and milk testing.
Sacramento River slough, dead fish nuisance.
Tracy, special engineering report on feasibility of sewer system.
Williams, special engineering report on feasibility of sewer system.
Colfax, special engineering report on feasibility of sewer system.
Orland, special engineering report on feasibility of sewer system.
Winters, special engineering report on feasibility of sewer system.
Oak Park, special report on water supply.
Agnew, special engineering report on sewage disposal.
San Jose, California Fruit Canners' Association, special engineering report on sewage disposal.
Belvedere, special engineering report on sewage disposal.
Corning, special engineering report on proposed sewer system.
Biggs, special engineering report on proposed sewage disposal.
El Verano and Sonoma, special engineering report on water pollution.
Loyalton, special engineering report on water supply and well pollution.
Portola, special engineering report on town and possible sewage disposal.
Broderick, special engineering report on sewage disposal.

THE NEED FOR A PERMANENT DIVISION OF SANITARY ENGINEERING FOR THE BOARD.

The following comments have been included at the request of the Secretary, as illustrating from the work already done, the need for developing a divison of Sanitary Engineering:

In connection with the work now being done, the Board should make a detailed study of the sewage purification plants in the State. There would be probably only five or six of these to be studied. The plants at Santa Clara, East San Jose, Pleasanton, Lodi, and Roseville probably, and the electrical purification plant at Santa Monica.

The five first named are all newly installed or in course of construction, and are the first of their kind in the State. As the need for further purification of sewage becomes more widely felt, more plants for effecting complete purification will be built. Probably many of them will be designed after these first few as patterns.

It will be strange, indeed, if these plants, designed without any previous local experiments in the methods they propose to employ, do not contain errors in design that will become evident on close study after they are put in operation. It is, therefore, very essential, as a matter of economy, that these defects be discovered and that engineers designing works of similar nature may know the results that these plants have given and know what to expect from the new ones.

The money saved in getting better efficiency will more than make up for that spent on investigations.

As an example of the practical value of such work, I will give the following letter taken from the files of the State Board of Health:

> ________________________. CAL., October 20, 1910.
>
> *State Board of Health, Sacramento, Cal.*
>
> GENTLEMEN: In the "Technical World Magazine," November number, page 341, appears an article on "Saving a City's Sewage" by Harry H. Dunn. I would like you to inform me if by the process adopted at Santa Monica (which this article treats of) if septic tanks are done away with, what the relative cost of one process against the other would be.
>
> As you know, we are preparing to make very extensive additions to our present system. The problem confronting us now is as to which system will be the most efficient in purifying our sewage. We have adopted plans for a liquefying tank, but actual construction has not begun.
>
> Before beginning the actual construction and before too late, I am desirous of getting all the information possible to the end that we can get the best for our money.
>
> Thanking you in advance, I am
>
> Yours very truly,
>
> ________________________.
>
> City Engineer of ______________.

The Board is at a disadvantage in not having the results of any authentic detailed study of the Santa Monica plant and its work. It was examined superficially by the inspector, but no analyses were made by the Board. One can readily see the money value of such information to a man like the city engineer, whose letter is quoted above. A hundred dollars spent in proving poor efficiency in an apparatus, may save thousands from being spent on inefficient disposal schemes.

Experiments on sewage purification.—There is a large and useful field for experiments along the lines of sewage purification, and these could be economically conducted at some of the various state institutions. There are a number of these situated in different parts of the State under different conditions, and from a few experiments judiciously planned and carried out, much good might be gotten.

At the Sonoma State Home at Eldridge there are a thousand persons, the sewage being partially treated by a fairly good septic tank. There is ample fall for installing experimental filters of the trickling type, or contact beds. The place is only a few hours' run from San Francisco.

The Ukiah State Hospital, the Patton State Hospital, the Agnew State Hospital and several others have independent sewerage systems and disposal plants, and any one of them would be a splendid field for investigations.

Utility is to be the main idea in making these experiments, and the questions to be answered by the results will be such as have a direct bearing on the design and operation of real plants. The whole idea being to enable the State Board of Health to recommend efficient equipment and forestall needless expenditure on inefficient equipment.

Irrigation.—In this connection it may be found expedient to do some work on sewage irrigation. And to collect for publication the results of work already carried out by local authorities in the State. At Patton, Ukiah, and Eldridge such work may be done entirely under State control, choosing these places as representing the most widely varying conditions in California.

In outlining the irrigation investigations, it might be well to seek the advice of the Federal authorities who have for several years carried on irrigation investigations in California under the United States Department of Agriculture. If possible, it might be well to enlist the services temporarily of one of the men from this department who is trained in irrigation. Such details are, however, beyond the scope of this report.

Preliminary surveys of smaller towns without sewers.—This part of the work is one I believe will be productive of great good. During the last few months such surveys have been made of five towns. Tracy, Williams, Colfax, Orland, and Winters. The conditions leading to these surveys were as follows:

The towns had no sewer systems.

Conditions had become dangerous to health, due to the scattering over the towns of wells, cesspools, and privy vaults in promiscuous proximity.

Nuisances existed and were complained of from privy vaults, overflowing cesspools, flies as sources of danger in carrying infectious diseases.

Diseases that might have been caused by filth and fly infection existed in the towns.

The towns had no local engineer to make estimates of probable cost of sewer system, or to advise as to the feasibility of a system and logical methods of disposal.

Noting these conditions, the Board sent its Engineer-Inspector to examine the town, secure or make a map and note the portions of town now occupied, get some idea of slopes and decide on a feasible scheme for sewering the town and disposing of the sewage. He was to make a cost estimate as closely as the information at hand warranted. No levels were run except roughly with a hand-level, and no attempt was made by the Board to furnish the towns with engineering services for their detailed work. The idea was to give them some definite advice as to the feasibility of a system and its probable cost, so they would have some basis to work on.

It was thought that such assistance would bring the question to an issue sooner and cause sewers to be put in and the general sanitary condition of the town bettered, much sooner than would have been the case if left to itself.

In some cases this hope has been realized. The city trustees of Winters have asked for the report and are proceeding in the necessary steps to put in a sewer system. The same is true of the town of Orland. The town of Tracy has become incorporated and has asked the Board for the engineer's report on sewers for the town.

There are in the State many small towns in about the same condition as that which led the Board to order surveys of the five named above. During the next year it is desired to make preliminary surveys of each of these, or as many as possible of them, and file the reports at this office, to be sent to local authorities when sufficient interest is aroused.

The following correspondence from one of the towns surveyed gives an idea of the work:

---------------, CAL., ---------------.

Secretary State Board of Health, Sacramento, Cal.

DEAR SIR: Will you kindly send me what printed matter you may have on hand regarding sewage, and its disposal.

Yours truly,

(Dr.) ----------------------

OFFICE OF SECRETARY, CALIFORNIA STATE
BOARD OF HEALTH, SACRAMENTO, CAL., --------

Dr. --------------, --------------, *Cal.* (Through the Secretary's office.)

DEAR SIR: In reply to your letter of the twenty-second, I am sending you under separate cover, two bulletins of this Board dealing with sewage disposal.

The Board is watching with a good deal of interest, the developments made along sanitary lines by the smaller towns of the State, and wishes to give them what assistance it can in these things.

In July of this year, having noticed from press clippings that your town was thinking of taking up the question of sewers, the Board sent me to get data for a general report on the feasibility and probable cost of a sewerage system and suitable disposal plant for ------------. The reports of that inspection are on file at this office and if the city officials care to avail themselves of this preliminary information, I would be glad to communicate further with you.

Yours very truly,

Engineer-Inspector Bureau of Epidemiology.

Respectfully forwarded,

Secretary.

--------------, CAL., ----------------.

W. F. Snow, Secretary State Board of Health, Sacramento, Cal.

DEAR SIR: Your letter and bulletins received, for which accept my thanks.

I am glad indeed to hear that you have made a general report on the feasibility and probable cost of a sewerage system for our town.

If you will, I wish you would send to me a copy of that report as soon as you can.

We have another meeting in a few days and I will place the report before the meeting and am sure that it will be of the greatest assistance to us in the installation of the system here.

Please put my name on the mailing list for the bulletin.

Very respectfully,

(Dr.) ------------------------

OFFICE OF THE SECRETARY, CALIFORNIA STATE
BOARD OF HEALTH, SACRAMENTO, CAL., --------

Dr. --------------, --------------, *Cal.* (Through the Secretary's office.)

DEAR SIR: In answer to your letter of the twenty-sixth, I am sending you herewith a copy of the report made to the State Board of Health in July, 1910, on the feasibility of a sewerage system in ----------------, possible methods of sewage disposal, and probable cost of same.

Under separate cover, I am sending you a map of a portion of ----------------. This forms a part of the report.

* * * * * * * * * *

Your name has been placed on the mailing list to receive further publications of the Board.

Yours very truly,

Engineer-Inspector Bureau of Epidemiology.

Respectfully forwarded,

Secretary.

Engineering advice to towns.—Before the State Board of Health, or any other body, can intelligently advise in matters of sanitary engineering, it must examine carefully the works that have been built and operated, and must note the features that contribute to their success or failure. Such an examination has been begun in the last year in California, but it is by no means complete. It is the hope of this department to eventually have on file at this office sewer maps, profiles, estimates, drawings of disposal plants, cost data, and detailed information concerning the sewerage and sewage disposal of every town and city of California. And those of some cities outside the State which present advanced ideas on the subject.

It is also hoped that files may be made and maintained showing data and maps of the sources of every public water supply in the State.

Almost every day letters come to this office from individuals, school trustees, and small municipalities, asking for advice in matters of sanitary engineering. It is the policy of the Board to court such inquiries, where the advice given may lead to the installation of equipment better than might otherwise be had. The Board would be unable to answer these queries if it had not the information on real works being operated.

Some typical examples of such correspondence follow, having been chosen from the files of the Board's letters during the last month or two:

————————, Cal., ————————, 1910.

State Board of Health, Sacramento, Cal.

Gentlemen: Enclosed you will find a sketch of a septic tank which we would respectfully ask your opinion as to improvements of the same. This tank does not work right. The conditions are as follows: This tank is located a short distance from the school buildings for the disposal of the town sewage. It has a capacity of 40,000 gallons and 15,000 gallons of sewage can be dumped into the tank. We find that the ditch that this tank empties into is covered with a thick, foul-smelling scum. This summer this scum got to a thickness of about six inches.

The scum is apparently of floating particles not being held in the tank and we have got to make some arrangement to hold this substance in the tank until the same is destroyed by bacteria.

This has got to be done to protect the health of our school children.

It has been suggested that the overflow pipes from the different partitions be carried down along the dotted lines, as shown on the sketch, as a remedy for this overflow, but before going to this expense we would respectfully ask your opinion of this change.

We would also like to know your opinion regarding a trap on the outlet pipe. How much sewage could be disposed of daily by this tank, and how much fresh water could be run through it?

An early reply in this matter will be greatly appreciated by,

Yours truly,

————————————, M.D.

Office of the Secretary, State Board of Health,
Sacramento, California, September 23, 1910.

Dr. ————————, ————————, *Cal.*

Dear Sir: I have at hand your letter to the board asking for advice as to changes in your septic tank.

It is rather difficult, as you know, to diagnose a case without seeing it. From your description, however, I judge that it is the effluent from the tank, standing stagnant in an open ditch, that is the source of trouble. We have frequently found this to be the case, even with some of the best designed septic tanks.

The septic process is, at best, only a preliminary process and the effluent from the tank should be carried as rapidly as possible to some place where the organic matter in it can be completely oxidized.

Under separate cover, I am sending you copies of the State Board of Health Bulletin in which you will find articles about septic treatment of sewage and explaining what may be expected of proper treatment by this process.

Your tank has a capacity of about 45,000 gallons, which would give ample storage (about eight hours) for a sewage flow of 120,000 gallons per day. * * * Sewage going through the tank at this rate would have the solids largely removed and those that remained would be in finely divided particles and could be readily oxidized and rendered inoffensive. * * * *

I am of the opinion that your idea of putting extensions on the pipes leading from the sections to the next is a good one. This is especially true of the outlet from the last chamber of the tank. * * * I do not think any large benefit would be had by trapping the outlet. * * * *

The most essential thing for you to have done, as I see your case, is to arrange for the prompt carrying away of your tank effluent. As long as it is allowed to stand stagnant, it will be a nuisance. Make a ditch so that it will be *kept moving*, and if it is possible to carry it to some flat gravelly land, it can be plowed into the ground with very little trouble.

If at any time this office can be of further service to you, the board will be glad to hear from you.

Yours very respectfully,

____________________,
Engineer Inspector,
Bureau of Epidemiology.

Respectfully forwarded,

____________________,
Secretary.

When such requests as the foregoing come in, if the place is within reasonable distance, the inspector is instructed to stop in and look over the field and get the information first hand. Very often he will notice things that affect the case, that escape the notice of an observer not trained in the work. Recommendations made after a personal visit by the inspector are much more satisfactory than the advice given on information furnished.

Larger towns have problems due to increasing needs and sometimes come to the State Board of Health for counsel. The correspondence in one case has already shown this.

Another instance is that of Petaluma. The method of sewage disposal there is no longer satisfactory, due to the gradual development of a number of causes. In response to a request from the local health officer, the Board sent its inspector to look over the situation from an engineering point of view and get facts for a report to the State Board. On the basis of this engineering report, recommendations were made to the trustees of Petaluma, giving estimates as to the extent of the work needed and its probable cost.

Hanford has been in conference with the Board in regard to a similar problem of an overtaxed sewage system. The State Board's inspector made an examination of the present system, and submitted an engineering reoprt showing its inadequacy and the need for improvements.

The knowledge that proposd improvements have the sanction of the State Board of Health often helps materially to make them possible when the bonds come to a vote of the people.

Passing upon proposed systems.—In only a few cases so far, has the Board has been asked to examine and pass upon plans for proposed works. This was done in the case of Modesto, and had a very good moral effect when the bonds for the sewer system came to a vote.

At Corning, before the recent bond election to provide the money for sewers and water works, the city trustees asked that the State Board of Health have some one go over the plans and approve them. This was done, the general plans and profiles of the water works and sewer system were gone over, the capacity of the pipes figured, and the design of the proposed disposal plant checked up. The fact that these details were approved by the State Board of Health no doubt had some part in creating a feeling of security, and helped to that extent to make the bond election a success.

There is no law in California, as there are in some states, requiring that such plans be approved by the State Board of Health before construction begins. It would, perhaps, be premature at this stage of the work, but such cases as those mentioned will do much to bring about that feeling of confidence in the State Board of Health in questions of sanitary engineering which will make such a state law possible and desirable. In the meantime it is for the State Board to continue to acquire that information and knowledge of engineering detail that will make its counsel welcomed as a valuable help by municipalities planning new works or improving old ones.

The office of the State Board of Health is the logical depository for this information and such departments, established in other states, notably Massachusetts, Ohio, New Jersey, Pennsylvania, and New York, have been productive of much good and have brought in large returns on the money invested.

Water pollution.—There are many cases of stream pollution that cannot be stopped at once. Partly because of insufficient machinery for enforcing the law, and partly due to the expense and time necessary to build purification works or make other plans for sewage disposal. But it is the hope of the department to "bring about the gradual abandonment of the streams of the State as carriers of filth, and to eventually reclaim them to their original state of purity."

Throughout the past year, the Board has investigated complaints on water pollution as this was possible with the limited force of inspectors. In many cases this was done in conection with the State Hygienic Laboratory, the inspector making a sanitary survey of the premises in connection with an analysis of the water. In cases where the pollution is evident, no analysis need be made. In cases such as wells, where the pollution is suspected, the analysis is interpreted in connection with the findings of the inspector.

Stream watersheds.—The inspection of the watersheds of the streams of the State was made with a view to finding out the extent of the pollution of these streams. It is useful for the Board to have this information for the study of water-carried diseases.

Engineers in their relation to the State Board of Health.—It is the desire of the Board to establish mutually helpful relations with the city engineers, especially of the smaller cities, and with the men who are doing sanitary engineering work throughout the State. To this end, a card catalogue of the names of all these men is being made, and note is being taken of works with which they have had any connection. From this index the Board will be able to know in a general way, the standing of the men. When inquiry is made of the Board concerning one of them, the parties asking can be referred to communities where that man has done work, and allowed to draw their own conclusions from his results.

As stated before, it is not the desire nor intention of the State Board of Health to furnish towns with engineering services, other than preliminary outlines and general advices as to policy, and as to the attitude of the Board toward their proposed works. The preliminary plans and estimates made in such cases as Winters and Orland, mentioned above, are never of such a nature that the works could be built from them without employing a sanitary engineer to make further study of local conditions, and detailed plans to fit them. So, instead of *taking* work *from* the engineers, they really *make* work *for* them. This first encouragement from the State Board of Health often arouses towns to put in works years earlier than they might, if left alone. Frequently, too, they are encouraged to put in *better* works, with more foresight, and thus avoid the useless expenditure, a few years later, for increases not provided for in the original design.

General outline of work for a division of sanitary engineering.—The work that should be done during the next year may be outlined as follows:

Study of sewage purification plants in the State.

Sewage investigations and experiments at State institutions, and other places.

Preliminary surveys, estimates, and engineering advice to smaller towns without regularly employed city engineers.

Completing records and files of information about:

Sewerage and sewage disposal in the State.

Water systems and sources in the State.

Special inspections and engineering reports on request:

Water pollution complaints.

Nuisance complaints.

Water supply problems.

Sewage disposal problems.

Inspections and examination of plans for new systems, on request.

Special inspections and engineering reports ordered by the Board.

Respectfully submitted.

NED D. BAKER,
Engineer Inspector Bureau of Epidemiology.

TWENTY-NINTH REPORT

OF THE

BOARD OF DIRECTORS AND OFFICERS

OF THE

CALIFORNIA INSTITUTION FOR THE DEAF AND THE BLIND

FOR THE

TWENTY-FOUR MONTHS ENDING JUNE 30, 1910.

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING.
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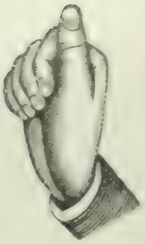
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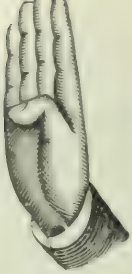
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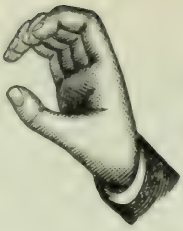
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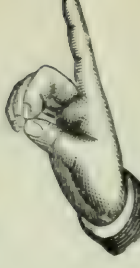
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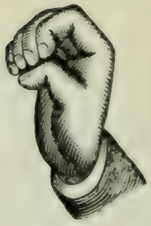
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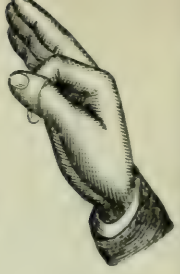
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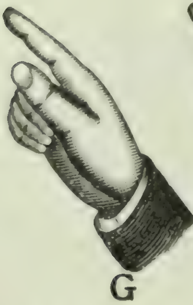
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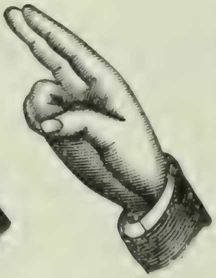
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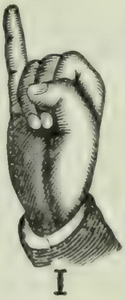
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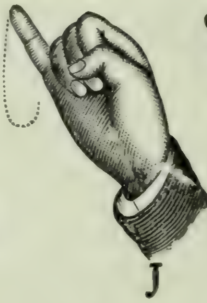
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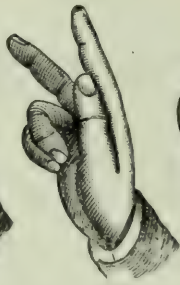
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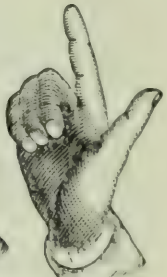
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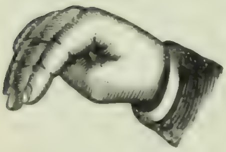
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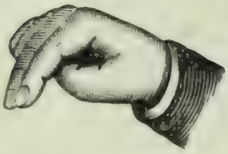
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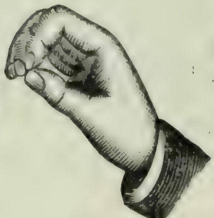
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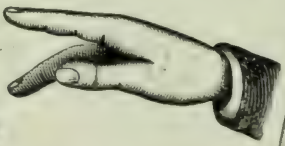
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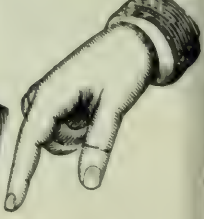
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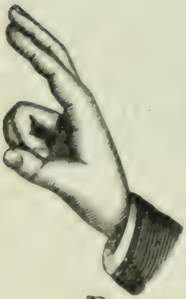
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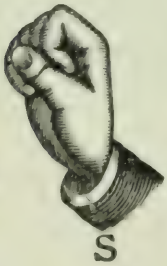
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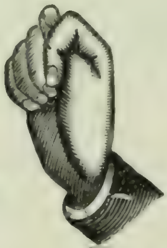
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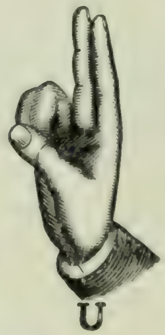
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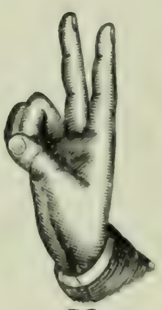
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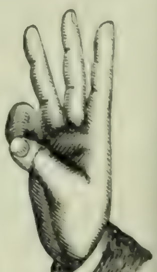
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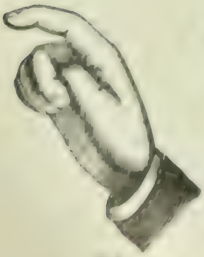
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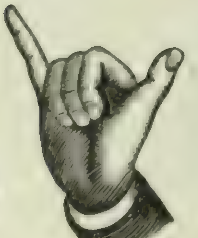
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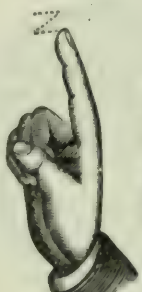
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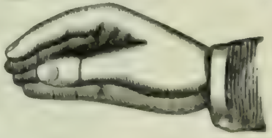
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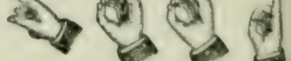
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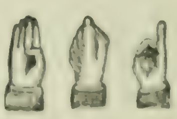
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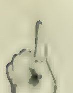
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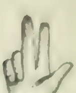
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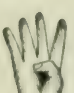
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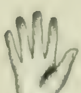
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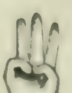
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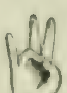
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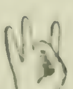
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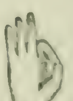
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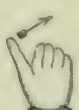
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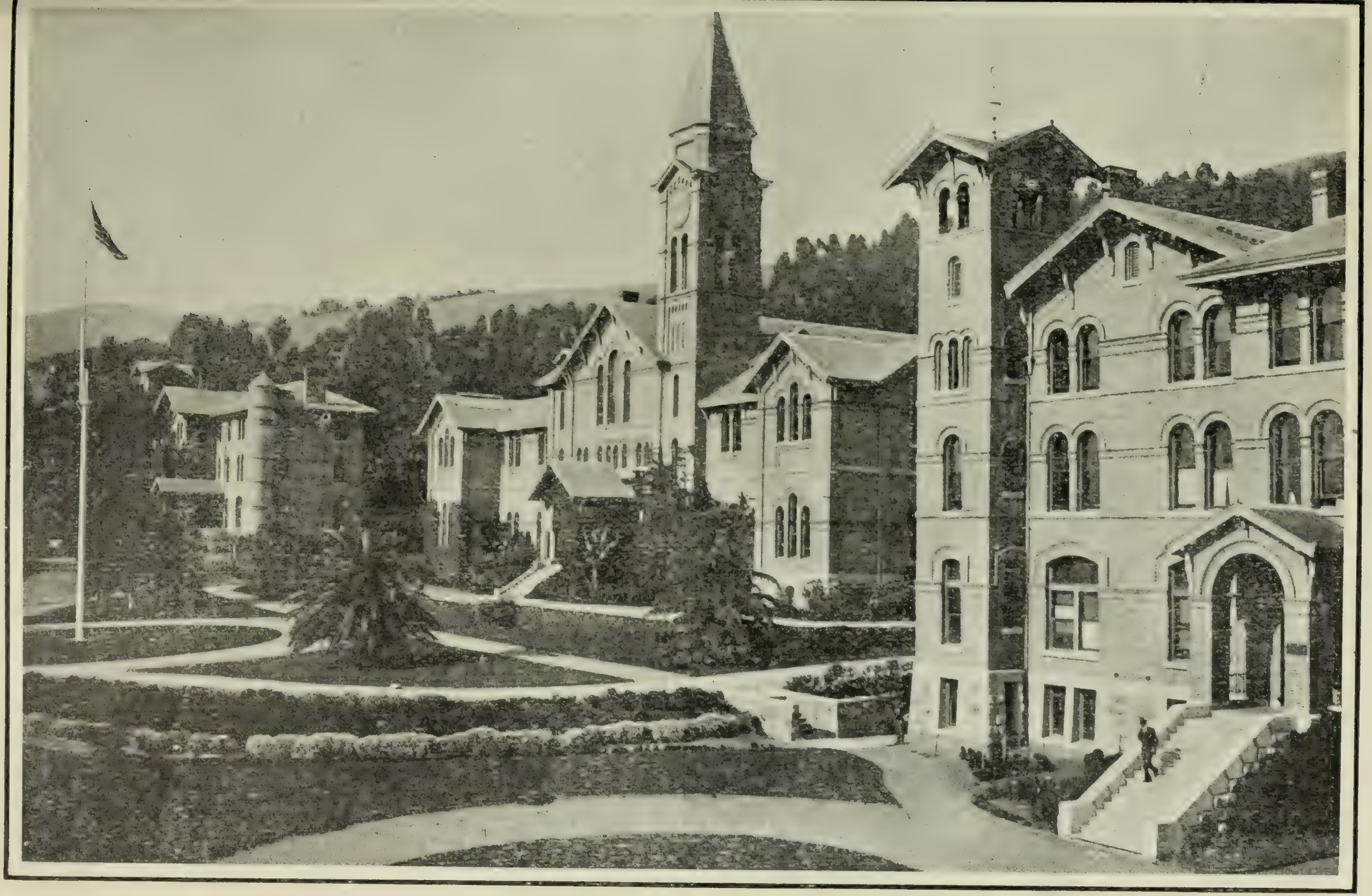


INSTITUTION FOR THE DEAF AND THE BLIND—FROM THE SOUTHWEST.

REPORT OF THE BOARD OF DIRECTORS.

To His Excellency James N. Gillett,
Governor of the State of California.

Sir: The Directors of the California Institution for the Deaf and the Blind, hereby respectfully submit their report for the two years ending June 30, 1910, including the report of the principal and treasurer. We refer you to the report of the principal and the treasurer for a full and complete statement of all the receipts and expenditures, the general condition of the institution, the number of pupils, and many other matters showing the present condition of the institution, and the many changes which have been recently made in regard to its conduct.

The present Board of Directors consists of George W. Reed of Oakland, W. E. Creed of Berkeley, Walter J. Mathews of Oakland, Thomas Rickard of Berkeley, and Melvin C. Chapman of Oakland.

On the twenty-eighth day of July, 1909, Mr. Warring Wilkinson resigned as the principal of the institution, and Mr. Douglas Keith was appointed as his successor.

On the fifteenth day of July, 1910, Dr. M. L. Emerson was appointed as the regular physician for the institution, and we desire to say that this gentleman is doing fine work for the institution, and taking excellent care of the physical condition of the pupils.

Dr. W. H. Halsey was appointed as the dentist for the institution on the first day of June, 1910, and is performing his duties to the entire satisfaction of the Board.

Reference to the report of the principal will show to you the way in which the pupils are now being taken care of and the system adopted. The increase in the number of pupils for the biennial period covered by this report is 25.

The hospital which was built at the institution several years ago is now open all of the time and is conducted by a trained nurse, and it certainly has been of great benefit to the pupils at the institution.

The Directors desire to state that Mr. Douglas Keith, the new principal, is now conducting this institution in the best possible manner, and to the entire satisfaction of the Board of Directors, and we also desire to express our approval of all the teachers and employees of the institution in performing the duties assigned to them.

At the last session of the legislature a small appropriation was made for certain improvements upon the grounds of the institution, and the repair of certain streets adjacent to the grounds. This appropriation, under the direction of the State Engineer and this Board, has been expended in a very economical way, and has been of great benefit to this institution. The streets have been improved, the plumbing in the buildings fixed up, a complete fire protection system established, and various other improvements made.

On the thirtieth day of October, 1910, a fire occurred at this institution, and the result was the complete destruction of the old industrial building which was erected in the year 1875. On the seventh day of November, 1910, another small fire occurred in Strauss Hall, but no damage of any value was done to the building. The directors have fully investigated these fires, and have made a full and complete report and forwarded the same to you, to which reference is hereby made.

It was the intention of the Board of Directors to ask the legislature, which convenes next month, for an appropriation for the erection of a manual training building, before this fire occurred. The old building having been destroyed by the fire caused very little damage to the State, and it is very important that the coming legislature should make an appropriation for the erection and equipment of a new industrial building. We consider that the erection of such a building will be of very great importance to the deaf and blind pupils, for the education which they will receive in manual training will help them very materially to take care of themselves after they have graduated from the institution.

We sincerely hope that the legislature will give this matter very careful consideration, and make this appropriation for the benefit of these poor and unfortunate children.

We consider this institution one of the most important in the State of California for the benefit of the poor and unfortunate children, and as the population of this State has largely increased, we have found it necessary to ask for some additional appropriations for its support and maintenance, and we request that the members of the legislature give this matter careful consideration and grant all the appropriations asked for.

This Board has carefully and conscientiously performed all its duties and done everything possible for the prosperity and progress of this institution, which we trust will meet with the approval of your Excellency and the people of the State of California.

Respectfully submitted.

GEORGE W. REED,
President Board of Directors.

BERKELEY, December 16, 1910.

BOARD OF DIRECTORS.

GEORGE W. REED, *President,*	Oakland.
WIGGINTON E. CREED, *Vice-President,*	Berkeley
W. J. MATHEWS,	Oakland.
THOMAS RICKARD,	Berkeley.
M. C. CHAPMAN,	Oakland.
W. E. GRIFFITH,	*Treasurer and Secretary of Board.*

OFFICERS.

PRINCIPAL:

DOUGLAS KEITH.

PRINCIPAL'S ASSISTANT:

WILLIAM A. CALDWELL.

TEACHERS OF THE DEAF:

W. A. CALDWELL, M.A.,
C. S. PERRY, M.A.,
THEODORE GRADY, B.L.,
JAMES W. HOWSON, M.A.,
L. MOFFAT,
FRANK O'DONNELL,
THEO. D'ESTRELLA.
HENRY FRANK,
MARY A. DUTCH,
LAURA A. NOURSE,
ANITA GOMPERTZ,
AUGUSTA HARMAN,
MARGARET SURBER.

TEACHERS OF THE BLIND:

RICHARD S. FRENCH, B.L.,
FLORENCE E. MONTGOMERY, B.L.,
ELMA GOIN.
MARY EASTMAN.

TEACHERS OF MUSIC:

OTTO FLEISSNER, BERTHA BUTLER, GUSSIE E. MAST.

TEACHERS OF INDUSTRIES:

J. C. JENSEN, J. GABRIELLI, P. R. DILLON.

TEACHER OF PHYSICAL CULTURE:

ETHEL A. COPLIN.

M. L. EMERSON, M.D.,	Physician.
F. R. MUSSER, M.D.,	Oculist and Aurist.
W. H. HALSEY, D.D.S.,	Dentist.
U. McCARGAR,	Nurse.
J. S. McCULLOUGH,	Resident Secretary.
ETTA BROWN,	Office Attendant.

MATRONS:

SARAH A. KIRK,
LEONTINE SMITH,
HELEN M. CAMMET,
M. J. MERRITT,
FRANCES RUNDE.

W. S. RUNDE,	Supervisor.
EDWARD J. BECK,	Assistant Supervisor.
JOHN TREVETHAN,	Electrical Engineer.
FRED HANSEN,	Engineer.

BARTLETT HALL—INSTITUTION FOR THE DEAF AND THE BLIND.

REPORT OF THE PRINCIPAL.

To the Directors of the California Institution for the Deaf and the Blind.

Gentlemen: I have the honor herewith to submit the biennial report for the period ending June 30, 1910, together with statements of receipts and expenditures for the same period, and estimates of appropriations needed for the proper support of the institution for the two years ending June 30, 1912.

The movement of pupils during the period mentioned has been as follows:

On rolls at date of last report			229
Admissions to date—			
Deaf boys	31		
Deaf girls	24		
		55	
Blind boys	14		
Blind girls	12		
		26	
Total admissions			81
Total enrollment			310
Dismissals—			
Deaf boys	15		
Deaf girls	19		
		34	
Blind boys	14		
Blind girls	8		
		22	
Total dismissed			56
Enrollment at date			254

HEALTH.

During the period under review, the hospital, which has heretofore been used only in case of an epidemic, has been open for general use, and a trained nurse and assistant employed. Every case of injury or sickness, however slight, is at once sent to the hospital, and brought to the immediate attention of the physician, who is in daily attendance. By this plan the chance of an epidemic is reduced to a minimum, and disease is arrested in its incipiency by prompt care and skillful treatment. The general health of the pupils has been excellent, due, no doubt, to the watchful care on the part of the physician, as well as to careful dietary, hygienic condition, and ideal climate. Nevertheless, it is my painful duty to report the death of two pupils belonging to the deaf department. In September, 1909, Ethel Fries, a promising child, died at a sanitarium in Oakland, after an operation for appendicitis;

and on December 15, 1909, Nellie Williamson, who had been a pupil of the institution only for a few months, died very suddenly, in our own hospital, of diabetes.

We have lately instituted a card system for the physical and hospital record of each pupil. Every child is given a thorough examination by the physician, and the condition of each organ of the body noted on the card, and treatment given when necessary. Those needing the services of the oculist and aurist, or of the dentist, are examined by these specialists, and receive the needed attention. A record is also kept by the dentist of all work done by him. The action of the Board in appointing the specialist and dentist under salary, is in line with the advancement made in this direction in the public schools, and is sure to add to the efficiency of our work.

THE SCHOOLS.

There has been little change in the corps of teachers during the past two years. Owing to the enlargement of the oral department, it became necessary to engage the services of a trained and experienced teacher by this method, and Miss M. Surber was appointed to the position made vacant by the resignation of Miss Marie P. Orr. An addition to the force has been made by the appointment of Miss P. R. Dillon, a graduate of the State Normal School of manual arts, as instructor for the blind. Up to this year the blind have received no manual training. Owing to the lack of funds the work in this direction is much hampered, and can only be of a preparatory nature. However, the work in this department has been augmented through the generosity of Miss Faville, who is devoting her time and energy, without any emolument, to teaching basket making and other useful arts to the blind girls.

In the spring of this year Professor Magee, head of the department of physical culture at the University, was engaged to initiate a system of classroom exercises in both departments. This work is now carried on by the regular teachers. The improvement in the bearing and carriage of the pupils is very apparent. The playground apparatus, which was installed last summer to aid in the physical development of our children, has proved to be a benefit and a delight to all.

A complete change has been made in the routine of the school, a morning and afternoon session being substituted for the long morning session of five hours almost continuous study, as heretofore.

The following is the order of the day:

7:15 to 7:45—Breakfast
9 to 9:10—Physical culture.
9:10 to 10:10—Recitation or industrial work.
10 to 10:10—Recess.
10:10 to 11—Recitation or industrial work.
11 to 11:10—Recess.
11:10 to 12—Recitation or industrial work.
12:10 to 12:45—Dinner.
1 to 2—Recitation or industrial work.

2 to 2:10—Recess.
2:10 to 3:15—Recitation or industrial work. Shop work continues to 4 o'clock.
5:30 to 6—Supper.
7 to 8—Study hour (for older pupils only.)

Previous to the destruction of the industrial building by fire, the scope of the manual department had been much increased. Whereas formerly there was but one class receiving instruction in woodworking, and one in printing, we were able, by rotation of classes and by running the shops during school hours, to give training to every boy above the third grade in some handicraft, while the girls in the same grades were instructed in domestic duties. The loss of this building, with the equipment of the shops, and printing and assay offices (the latter recently installed), has greatly interfered with this important branch of our work; but by dismantling the gymnasium, and fitting it up for a work shop, we are able to continue instruction in carpentry and cabinet making.

A complete course of study has been mapped out in each subject of the literary department, and also for the musical and industrial departments. By adherence to this, the work of the class room will become more uniform, and the grading of the pupils made easier.

Owing to the earnest coöperation of the teachers and officers, the complete change of daily program and school schedule has been carried out without friction, and been productive of more efficient work on the part of teachers and pupils.

APPROPRIATIONS.

There will be needed for the proper conduct of the institution for the two years ending June 30, 1912, the following appropriations:

Salaries and wages	$110,000.00
Support	50,000.00
Industrial building	45,000.00
Equipment, industrial building	15,000.00
Improvement of plumbing and water supply	6,000.00

For several years the appropriation for salaries has been insufficient for the needs of the institution, and the Directors have had to draw on the trust and contingent funds to pay teachers and employees who are necessary to the institution, and whose salaries should be paid by the State.

The trust funds, amounting to $77,615, are composed of legacies and donations which charitably disposed persons have placed in the hands of the Directors for the benefit of the deaf and the blind. Although these funds may be used at the discretion of the management, it may reasonably be assumed that the intent of the donors was not to reduce the tax levy of the State or relieve the State of just burdens, but rather to place funds in the hands of the directors for the benefit and assistance of the deaf and the blind in ways that the State could not be rea-

DURHAM HALL—INSTITUTION FOR THE DEAF AND THE BLIND.

sonably asked to help. At the present time the income from these legacies is being used almost entirely in the support of the institution, making it impossible for the Directors to use these funds for such beneficent purposes as they were intended. In times past, the accrued interest of these bequests has been spent for permanent improvements; chief amongst these is the hospital, which was erected with money belonging to the Durham fund at a cost of $10,000. At the present time the funds are carrying the expense of three teachers in the blind department, two in the industrial department, besides the expense incurred for wages in maintaining the hospital. It is not unreasonable to expect that the State should assume the running expenses of what is a necessary adjunct to every institution.

Owing to an increase of over 10 per cent in the number of pupils enrolled, and the prospect of a larger increase in the next two years, it becomes necessary to ask for the addition of $1,250 a year to the appropriation for support.

No appropriation for buildings has been made for this instiution since the year 1893. We are now compelled to ask for appropriations to erect and equip an industrial building to take the place of the old frame building destroyed by fire October 30, 1910.

The value of manual training for the young has become so generally recognized that it is now a part of the curriculum of the schools throughout the State. Although this institution was the pioneer in this State for providing manual training for its pupils, it has lately been outstripped by other schools in California, and by institutions of like character in the East, not in the quality of workmanship, but in the percentage of those receiving instruction and the number of trades taught. It is particularly urgent that we should give a liberal industrial training to those under our care, for it must be borne in mind that their education is much slower than with the normal child, who has obtained a fair working or common school education at the age of 14 or 15, and can then begin an apprenticeship or prepare for some vocation. Our pupils, however, have to remain in school until they are 19 or 20 before attaining this standard. They are thus debarred on account of their age on leaving school from apprenticeship, so, unless they receive manual training here, they will be sent out in the world laboring under a severe physical handicap, and with a penalization of several years, to compete with normal people in the struggle for existence.

To my mind, the economic value of the education of the deaf and the blind is much impaired unless manual training goes hand in hand with the rudimentary education. It is expected of us, and rightly so, by the people of the State who bear the burden of the expense, that we should send out graduates who are able to support themselves. This can be made possible with the deaf. Indeed, they are never objects of charity,

PRINCIPAL'S RESIDENCE—INSTITUTION FOR THE DEAF AND THE BLIND.

and many of them occupy enviable positions in the field of art and science, the professions, and the business world. As I have stated before, we are just making a beginning in manual training for the blind, many of whom can support themselves by the work of their hands, and all can at least help support themselves, which is most important; but we can not expect any results in this direction, unless the fingers are trained, and habits of industry formed, in early youth. Piano tuning, weaving, basket making, and chair caning should be taught to this class. If our prayer to the legislature is answered, we shall be able to alleviate the dependent condition of the blind, to make their lives happier, and enable them to make considerable return to the State for its generous support of this institution.

An appropriation of $6,000 is asked for the completion of the plumbing repairs for which the sum set aside by the last legislature was insufficient, and also for the purpose of improving the water supply. At the present time, we are paying over $100 a month to outside parties for water, while a supply belonging to the institution is running to waste in the back of the grounds which can be piped to our own reservoir.

In conclusion, I wish to thank you, the Directors, for the confidence you have expressed in me by my promotion to the chief executive position in the institution; for your patient attention and wise counsel, always freely given, on questions regarding the reorganization of the work of the institution, and for the kindly interest you have taken in the welfare of afflicted children in your care.

Respectfully submitted.

DOUGLAS KEITH,
Principal.

November 30, 1910.

ACKNOWLEDGMENTS.

On behalf of the pupils of the institution we desire to extend thanks to the Board of Directors for providing an Edison moving picture machine for the deaf pupils and a Victrola for the entertainment of the blind; to the Southern Pacific Company, the Atchison, Topeka and Santa Fe, and the Northwestern Pacific Railroad for courtesies extended to pupils going to and from school; to Mrs. Harriet Chalmers Adams, the explorer, for an illustrated lecture on South America; to Mr. J. W. Erwin for a moving picture exhibit and a lecture on North American scenery; to the Young Ladies' Guild of St. John's Church for presenting a play in the institution assembly hall; to Miss Robeson for invitations extended to the blind children to attend several concerts; to Mrs. William Mott, Mrs. John Lynde, and Miss Eleanor French, who have spent many hours in reading to the blind girls.

DISSECTIONS.

SALARIES AND WAGES.

Principal and teachers	$45,055 10
Physician, and executive officers	16,554 05
Help	20,070 49
Treasurer	2,200 20
Total	$83,879 84

GROCERIES AND PROVISIONS.

Ammonia carb.	$2 75
Apple butter	10 55
Bacon, 1,060 pounds	194 40
Baking powder, 279 pounds	73 98
Beans, bayo, 2,959 pounds	138 65
Beans, lima, 759 pounds	43 39
Beans, white, 188 pounds	8 61
Butter, fresh, 8,710 pounds	2,874 71
Canned goods, 211½ dozen	421 05
Capers, 25 bottles	3 53
Cheese	158 54
Chocolate, 69 pounds	14 56
Citron	3 80
Cocoa, 36 pounds	13 20
Cocoanut	4 04
Coffee, 1,500 pounds	257 00
Cornmeal, 5,300 pounds	142 60
Cornstarch, 262 pounds	21 10
Crackers	15 96
Crackers, soda, 1,797 pounds	124 65
Cream of tartar, 48 pounds	16 44
Currants, 230 pounds	17 92
Eggs, 2,319 dozen	779 59
Extracts	44 70
Farina, etc.	15 41
Fish, fresh	350 09
Fish, salt	76 10
Flour, graham, 6 barrels	36 50
Flour, rye	4 90
Flour, white, 432 barrels	2,534 70
Fruit, dried	189 06
Fruit, fresh	662 83
Gelatine	6 55
Ham, 2,308 pounds	403 47
Honey	3 20
Hops	2 10
Lard, 2,500 pounds	324 70
Lye, 10 dozen	13 00
Macaroni, 626 pounds	26 99
Meat, fresh, 72,885 pounds	6,209 26
Mincemeat, 445 pounds	63 93
Molasses, 98 gallons	37 22

Mustard, 45 pounds	$9 65
Oats	21 87
Olive oil	136 90
Pearl barley, 150 pounds	6 87
Peas, split, 1,000 pounds	53 10
Pepper, 108 pounds	17 78
Pickles	51 30
Pickles, keg	10 80
Polish	17 35
Potatoes, 59,106 pounds	942 32
Poultry, 397 pounds	114 16
Raisins, 446 pounds	33 95
Rice, 2,802 pounds	162 80
Saleratus, 180 pounds	9 36
Sal soda, 3,400 pounds	55 20
Salt, coarse, 810 pounds	6 85
Salt, dairy, 800 pounds	5 95
Salt, table, 2,824 pounds	27 16
Saltpetre	6 86
Salt pork, 643 pounds	102 51
Sapolio, 57 dozen	39 40
Sauce	17 25
Soap, brown, 7,900 pounds	300 38
Soap, ivory, 23 boxes	160 25
Soap, powdered	37 00
Soap, toilet	5 20
Spices	19 15
Sugar, brown	25
Sugar, granulated, 36,710 pounds	2,057 93
Sugar, cube, 110 pounds	7 43
Sugar, powdered, 406 pounds	26 08
Syrup, 294 gallons	104 18
Tapioca, etc.	12 58
Tea, 483 pounds	144 95
Vegetables	48 04
Vinegar	56 04
Washing ammonia, 16 dozen	38 70
Wheat, rolled, 3,900 pounds	120 39
Yeast	76 39
Total	$21,410 02

CLOTHING.

Belts	$2 10	Shoes	$1 00
Clothes brushes	2 50	Shoe blacking	9 95
Darning cotton	2 52	Shoe brushes	9 50
Dress goods	3 00	Shoe laces	4 87
Dress making	3 50	Suit	9 00
Elastic	6 82	Thread	25 94
Hair cutting	8 75	Underwear	8 75
Hooks and eyes	20		
Hosiery	2 00		
Ribbon	4 88	Total	$105 28

FURNITURE.

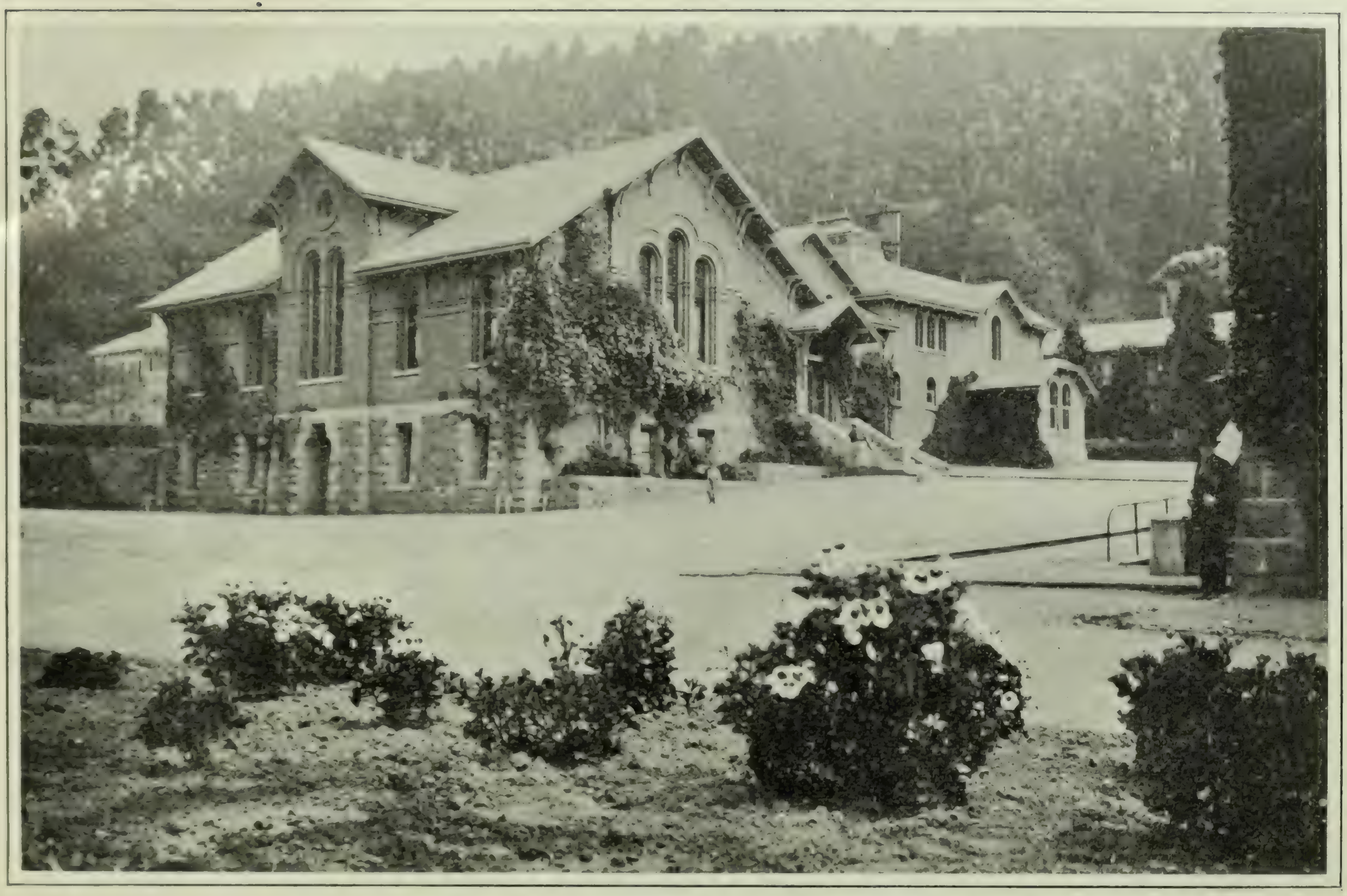
Baskets	$9 55	Napkins	$24 37
Blankets, 33 pair	100 15	Office fixtures	38 50
Brooms, 28 dozen	122 50	Oil cloth	50
Carpets	67 85	Pails	19 65
Carpet cleaner	15 50	Pillows	18 90
Carpet cleaning	63 05	Preserve jars, etc.	38 70
Chairs	11 50	Quilts	2 82
Clocks and repairs	2 10	Rubber sheeting	42 00
Crockery	274 42	Scrub brushes	16 60
Cutlery	18 83	Shades	9 45
Curtain goods	92 43	Sewing machine repairs	7 70
Dust and floor brushes	61 20	Sheeting, 963 yards	168 43
Dust pans	5 03	String	14 48
Enamel ware	16 40	Table cloth	87 95
Feather dusters	30 75	Thread	52
Garbage can	2 25	Ticking, 66 yards	9 95
Hair	20 00	Tinware	7 62
Kitchen utensils	120 34	Toweling	169 08
Mats	65 63	Upholstering	34 10
Mattress repairs	94 30	Wrapping paper, etc.	21 00
Mirrors	14 40		
Mop cloths	76 00		
Mop and brush handles	16 60	Total	$2,033 10

BUILDING AND REPAIRS.

Brick	$3 06	Painting and papering	$315 33
Cement	14 63	Paints, oils, etc.	499 53
Glass, putty, etc.	124 48	Plumbing and supplies	533 44
Gravel and sand	18 00	Plastering	55 50
Hardware	286 14	Range repairs	76 15
Heating apparatus repairs	70 73	Roof repairs	113 82
Lime	8 35	Sewer pipe	101 37
Lumber	766 48		
Nails, etc.	23 48	Total	$3,010 49

FUEL AND LIGHT.

Boiler compound	$74 58	Gas regulator, rent	$23 00
Boiler repairs	14 75	Gasoline, 190 gallons	28 31
Candles, 75 pounds	6 94	Lamps	4 35
Coal, 293 tons 795 pounds	2,726 26	Machine oil	119 35
Coal oil, 250 gallons	26 00	Machine repairs	26 12
Electric lamps	56 20	Matches	11 20
Electric light	119 00	Wages	4,180 20
Electric repairs	71 79	Wood, 24 cords	247 00
Fuel oil, 2,122 barrels	2,617 39		
Gas	1,111 75		
Gas fixtures	10 10	Total	$11,474 29



REFECTORY—INSTITUTION FOR THE DEAF AND THE BLIND.

LAUNDRY.

Baskets	$33 67
Blueing	17 55
Caustic potash, 50 pounds	4 50
Caustic soda, 960 pounds	63 60
Chloride of lime, 925 pounds	42 50
Clothesline	1 00
Irons	7 21
Machine repairs	6 00
Mangle blanket	20 05
Marking ink, etc.	8 80
Nets	$7 00
Oxalic acid	14 92
Starch, 781 pounds	95 94
Soda, 2,800 pounds	68 25
Tallow, 490 pounds	32 21
Wages	2,854 42
Wax	6 05
Total	$3,283 67

STABLE AND DAIRY.

Barley, 24,118 pounds	$359 78
Bran, 39,817 pounds	606 31
Corn, 405 pounds	8 40
Farm implements	17 70
Harness and repairs	12 95
Hay, 374,612 pounds	2,666 92
Horse shoeing and clipping	166 75
Middlings, 25,634 pounds	457 84
Oats, 1,740 pounds	36 26
Oilcake meal	170 32
Pails, cans, etc.	$20 85
Pasteurizing plant	298 49
Salt	1 12
Separator	67 50
Veterinary expenses	61 15
Wages	1,845 00
Wheat, 10,121 pounds	215 81
Wheat, cracked, 354 pounds	8 14
Total	$7,021 29

INDUSTRIAL DEPARTMENT.

Carpenter shop	$522 30
Printing office	115 01
Total	$637 31

MISCELLANEOUS.

Blacksmithing	$4 50
Books and stationery	526 46
Diplomas	6 50
Directories	12 00
Drugs, etc.	479 17
Electric bells and repairs	23 22
Expense of pupils, parties, etc.	116 30
Fertilizer	20 00
Express charges	181 95
Flag	8 50
Freight	49 51
Garden tools	59 50
Hose	51 77
Ice	43 20
Music	82 62
Piano and organ tuning, etc.	148 50
Pruning	$13 00
Rope	5 18
Safe deposit rent	4 00
Seeds	11 23
Stamps	137 59
Subscriptions, magazines, etc.	63 00
Telegrams	11 55
Telephones	272 74
Traps, poisons, etc.	3 40
Traveling expenses	14 50
Typewriter repairs	17 50
Water	1,697 59
Wrapping paper, etc.	143 94
Total	$4,208 92

RECAPITULATION.

Salaries and wages	$83,879 84
Groceries and provisions	21,410 02
Clothing	105 28
Furniture	2,033 10
Building and repairs	3,010 49
Fuel and light	11,474 29
Laundry	$3,283 67
Stable and dairy	7,021 29
Industrial department	637 31
Miscellaneous	4,208 92
Total	$137,064 21

CONTINGENT FUND.

Maintenance	$5,921 83
Labor	4,058 58
Repairs to buildings	1,142 93
Miscellaneous	$922 84
Total	$12,046 18

TREASURER'S STATEMENT FOR THE TWENTY-FOUR MONTHS ENDING JUNE 30, 1910.

STATE APPROPRIATION.

Received from State Treasurer	$137,064 21	
Disbursements.		
Pay rolls		$93,167 56
Supplies, as per vouchers		43,896 65
	$137,064 21	$137,064 21

CONTINGENT FUND.

To cash from State Treasurer	$12,046 18	
To miscellaneous receipts	12,542 49	
Disbursements.		
By sundry accounts as per vouchers		$12,046 18
By cash sent State Treasurer		12,542 49
	$24,588 67	$24,588 67

DURHAM FUND.

July 1, 1908—Cash on hand	$2,406 10	
June 30, 1910—Interest and dividends	7,689 08	
Received from loans	3,000 00	
		$13,095 18
Disbursements.		
June 30, 1910—Paid as per vouchers, including loans		7,328 09
Cash on hand		$5,767 09

STRAUSS FUND.

July 1, 1908—Cash on hand	$190 86	
June 30, 1910—Interest and dividends	1,578 44	
Received from loans	2,000 00	
		$3.769 30
Disbursements.		
June 30, 1910—Paid as per vouchers, including loans		440 48
Cash on hand		$3.328 82

LIBRARY FUND.

July 1, 1908—Cash on hand	$789 50	
June 30, 1910—Interest and dividends	63 03	
		$852 53
Disbursements, as per vouchers		168 97
Cash on hand		$683 56

VER HUELE FUND.

July 1, 1908—Cash on hand	$62 75	
June 30, 1910—Interest and dividends	381 40	
		$444 15
Disbursements as per vouchers		175 00
Cash on hand		$269 15

INGALLS FUND.

June 1, 1910—Cash on hand	$5,000 00	
June 30, 1910—Interest and dividends	66 70	
		$5,066 70
Disbursements, loan		5,000 00
Cash on hand		$66 70

CASH BALANCES, JUNE 30, 1910.

Durham fund deposit with Farmers and Merchants' Savings Bank	$5,767 09
Strauss fund deposit with Union Savings Bank, Oakland	3,328 82
Library fund deposit with Union Savings Bank, Oakland	683 56
Ver Huele fund deposit with Berkeley Bank of Savings and Trust Co.	269 15
Ingalls fund deposit with University Savings Bank	66 70
Total	$10,115 32

ASSETS.

Cash on hand	$10,115 32
Bills receivable	67,500 00
	$77,615 32

DETAILED STATEMENT OF BILLS RECEIVABLE.

Charles Jurgens	$25,000 00
Gaskill Company	25,000 00
M. S. and W. H. Kellogg	3,500 00
M. Z. and W. P. Putnam	4,000 00
Carmel C. Jacott	5,000 00
L. A. and F. T. Lamb	5,000 00
	$67,500 00

Respectfully submitted.

W. E. GRIFFITH,
Treasurer.

Subscribed and sworn to before me this fourteenth day of December, 1910.

A. H. DALE,

[SEAL] Notary Public in and for the County of Alameda,
State of California.

LIST OF PUPILS.

DEAF BOYS.

Name.	Town.	County.
Abbott, Ashbel	Soledad	Monterey
Adams, Charles V	Florin	Sacramento
Alvarado, Joe	Pomona	Los Angeles
Barthe, Peter N	Livermore	Alameda
Barwise, William	Pomona	Los Angeles
Boam, Cron F	Fresno	Fresno
Beck, Hyrum	Oakland	Alameda
Behl, Joseph	San Jose	Santa Clara
Bonetti, Henry	Santa Clara	Santa Clara
Burton, Roy	Fresno	Fresno
Broderick, Edward	Berkeley	Alameda
Brinkley, Ray	Fort Apache	Arizona
Burrell, Fred	Dos Palos	Merced
Cadematori, David	San Francisco	San Francisco
Cardoza, Joseph	Petaluma	Sonoma
Clark, Thomas	Stockton	San Joaquin
Claver, Le Monte	Campbell	Santa Clara
Comeford, William	Barnwell	San Bernardino
Copp, Ralph W	Oakland	Alameda
Cordero, Augustin	Santa Barbara	Santa Barbara
Crane, Jessye M	Visalia	Tulare
Curtiss, Almon	Chico	Butte
Curtiss, Oscar	Chico	Butte
Davidson, Melvin	Oakland	Alameda
Dodge, Morse	Mendocino	Mendocino
Dowling, Elbert	Carson City	Nevada
Dwyer, Loren	Richmond	Contra Costa
Ferguson, Harold	Holtville	San Bernardino
Fleek, Ralph	Ocean Park	Los Angeles
Fonseca, William	San Francisco	San Francisco
Franck, Henry	San Francisco	San Francisco
Francis, George	Pomona	Los Angeles
Fries, George	Laton	Fresno
Gabrielli, Joe	Sacramento	Sacramento
Genignani, Victor	Sacramento	Sacramento
Gliddon, Don	Berkeley	Alameda
Goodale, Brady	Independence	Inyo
Goodale, Buster	Independence	Inyo
Guire, Oscar	Colton	San Bernardino
Hawvichorst, Robert	Los Angeles	Los Angeles
Heitshusen, John	Anaheim	Los Angeles
Hill, Vivian	Berkeley	Alameda
Hytti, Hjalmar	Sawyer's Bar	Siskiyou
Issoglio, Arthur	Jerome	Arizona
Jatta, Arthur	Arroyo Grande	San Luis Obispo
Jenkins, John P	Hanford	Tulare
Johnson, Frederick	San Francisco	San Francisco

DEAF BOYS—Continued.

Name.	Town.	County.
Johnson, Harold	Los Angeles	Los Angeles
Judge, John	Alameda	Alameda
Kaiser, Diedrich	Fruitvale	Alameda
Kett, Robert	Tehachapi	Kern
Kibby, Norman	Cupertino	Santa Clara
Knarston, Irvine J	Nanaimo	British Columbia
Kohrumel, William	Red Bluff	Tehama
Lee, Oscar	Oakland	Alameda
Lopez, Clemons	Berkeley	Alameda
Losano, Jose G	Palo Alto	San Mateo
Majourau, Victor	Redwood City	San Mateo
Marlatt, Thomas	San Francisco	San Francisco
Martorano, Michele	San Jose	Santa Clara
Matson, George	San Francisco	San Francisco
Matthews, Charles	Arcata	Humboldt
McNeilly, Harold	Reno	Nevada
Millett, Raymond H	Los Angeles	Los Angeles
Modisett, Clarence	Oil Center	Kern
Moore, Clinton G	Sacramento	Sacramento
Moran, Canuto	Covelo	Mendocino
Nelson, Carl	Visalia	Tulare
Nutting, George	San Francisco	San Francisco
O'Brien, Meredith	Oakland	Alameda
Pale, Charles	San Francisco	San Francisco
Patheal, Monroe	San Jose	Santa Clara
Peixotto, Antone	Centerville	Alameda
Phillips, George C	Oakland	Alameda
Poole, Earl	Yreka	Siskiyou
Purbeck, Ernest	St. Helena	Napa
Ratto, Stephen	San Francisco	San Francisco
Ross, Leslie	Napa	Napa
Sanchez, Reginaldo	Los Angeles	Los Angeles
Sangmaster, Nome	Blue Canyon	Placer
Schneider, Milton	Oakland	Alameda
Schwarzlose, Harry	Alameda	Alameda
Sencimino, Alfred	San Francisco	San Francisco
Sherman, John	Fresno	Fresno
Sherman, Lafayette	Fresno	Fresno
Smith, Alexander	Colusa	Colusa
Spencer, Albert	Lodi	San Joaquin
Stewart, Ernest	Eureka	Humboldt
Stokes, Frank H	West Berkeley	Alameda
Taylor, Fred C	San Francisco	San Francisco
Thomas, Walter R	San Francisco	San Francisco
Thurman, Merle	Redding	Shasta
Tyhurst, William	Napa	Napa
Thorn, Milton	Berkeley	Alameda
Vaio, Charles	Stockton	San Joaquin
Valiant, Walter	San Francisco	San Francisco
Waddell, Donald	Los Angeles	Los Angeles
Waddell, Paul B	Los Angeles	Los Angeles
Walker, William H	Pollasky	Fresno
Wampler, William M	Willows	Glenn
Watts, Willie	Paso Robles	San Luis Obispo
Weber, Carl	Chico	Butte
White, Albert	Richmond	Contra Costa

DEAF BOYS—Continued.

Name.	Town.	County.
Whitworth, George	Newman	Stanislaus
Weile, Edward	San Francisco	San Francisco
Wills, Edward	San Francisco	San Francisco
Wilsey, Silas	Highland	San Bernardino
Wilson, Edwin	Inglewood	Los Angeles
Wilson, Harry P	Inglewood	Los Angeles
Wilson, James W	Inglewood	Los Angeles
Wimber, John W	Hanford	Tulare
Winters, Ebbie	Oakland	Alameda
Yeghoian, Joseph N	Fresno	Fresno

DEAF GIRLS.

Name.	Town.	County.
Arnold, Lily	Fruitvale	Alameda
Baars, Charlotte	Berkeley	Alameda
Baertschiger, Anna	Los Angeles	Los Angeles
Beal, Elsie	San Francisco	San Francisco
Bilby, Stella M	Fresno	Fresno
Billings, Caro	Yountville	Napa
Bizzini, Nellie	Petaluma	Sonoma
Bizzini, Perina	Petaluma	Sonoma
Blakesley, Alta E	Ukiah	Mendocino
Bloss, Mildred	Berkeley	Alameda
Bonzani, Paulina	San Gregorio	San Mateo
Brodrick, Amy	Berkeley	Alameda
Burkhart, Hazel G	Porterville	Tulare
Cardoza, Clara	Petaluma	Sonoma
Cardoza, Minnie	Petaluma	Sonoma
Case, Viola	Paradise	Nevada
Castro, Melitino	San Francisco	San Francisco
Cohn, Annie	San Francisco	San Francisco
Cohn, Ida	San Francisco	San Francisco
Coleman, Thelma L	Anaheim	Los Angeles
Comach, Annie	San Leandro	Alameda
Conrad, Goldy	Capitola	Santa Cruz
Cota, Marie	Montecito	Santa Barbara
Cox, Agnes J	Fresno	Fresno
Cruz, Hortense	Compton	Los Angeles
Cundiff, Beulah	San Francisco	San Francisco
De Large, Irene	Prescott	Arizona
Delmas, Caroline	Millwood	Fresno
Dunsmore, Laura	Turlock	Stanislaus
Dunnigan, Florence	Berkeley	Alameda
Egan, Edna	San Francisco	San Francisco
Eisner, Charlotte	Fresno	Fresno
Freitas, Annie	Hayward	Alameda
Fries, Ethel	Long Beach	Los Angeles
Forbes, Ramona	Fruitvale	Alameda
Garcia, Josefa	Pomona	Los Angeles
Gregory, Elva	Oil Center	Kern
Grider, Edna	Porterville	Tulare
Guerrero, Rebecca	Bakersfield	Kern
Hanson, Meta	Lathrop	San Joaquin
Hall, Grace	Phoenix	Arizona
Harde, Freda	San Francisco	San Francisco

DEAF GIRLS—Continued.

Name.	Town.	County.
Hare, Irene	Berkeley	Alameda
Harrison, Carmelita	Oakland	Alameda
Heil, Grace	Los Angeles	Los Angeles
Hoffman, Martha	St. Helena	Napa
Hogan, Myrtle	San Jose	Santa Clara
Hoopes, Edith	Los Angeles	Los Angeles
Ikin, May	Berkeley	Alameda
Johnson, Amelia	Oceanview	San Francisco
Johnson, Clara	Ripon	San Joaquin
Jessen, Louise	Watsonville	Santa Cruz
Kaiser, Augusta	Fruitvale	Alameda
Kenney, Anna	Madera	Madera
Kolberg, Minnie	Stockton	San Joaquin
Larimer, Mildred	Santa Rosa	Sonoma
Lee, Lily	Reno	Nevada
Lund, Libby R	Elmhurst	Alameda
Mees, Beulah	Highland	San Bernardino
Mitchell, Wildey	Selma	Fresno
Money, Beulah G	San Bernardino	San Bernardino
Montgomery, Gladys	Oakland	Alameda
Montgomery, Joycie	Oakland	Alameda
Moynahan, Annie	San Francisco	San Francisco
Mutch, Viola	Honolulu	Hawaii
Nelson, Edith M	Turlock	Stanislaus
Neubauer, Martha	San Francisco	San Francisco
Noll, Martha	Irvington	Alameda
Overton, Georgia	Chico	Butte
Peters, Maggie	San Francisco	San Francisco
Reilly, Mary E	Porterville	Tulare
Richards, Elsie	Berkeley	Alameda
Richeson, Audrey	Sacramento	Sacramento
Roy, Ella R	Los Angeles	Los Angeles
Schiff, Lena	San Francisco	San Francisco
Schmidt, Freda	Santa Rosa	Sonoma
Shattuck, Phebe	San Francisco	San Francisco
Shea, Lillian	Los Angeles	Los Angeles
Sheehan, Mamie	Palermo	Butte
Shimonowsky, Dora	Willitts	Mendocino
Simpson, Mollie	Coronado	San Diego
Simpson, Nora	Coronado	San Diego
Smith, Mabel S	Berry Creek	Butte
Stacks, Bessie	Elliott	San Joaquin
Stauts, Edith	Carson City	Nevada
Sturm, Hattie	Berkeley	Alameda
Tanzmann, Helen	San Francisco	San Francisco
Terrell, Stella	Oroville	Butte
Thom-Wohrden, Edna	San Francisco	San Francisco
Trathen, Hazel	Oakland	Alameda
Waters, Avy	Tracy	San Joaquin
Walker, Ethel C	Los Angeles	Los Angeles
Walker, Myrtle	Santa Rosa	Sonoma
Williamson, Nellie	Riverdale	Fresno
Wood, Bernice	Bishop	Inyo
Yung, Ada	Oakland	Alameda
Zoanni, Marie	Hamilton	Nevada

BLIND BOYS.

Name.	Town.	County.
Abraham, Gabriel	San Francisco	San Francisco
Allen, Walter	Grass Valley	Nevada
Armstrong, Thomas M	San Francisco	San Francisco
Ayer, Lucien	Elk	Mendocino
Bailey, George C	Berkeley	Alameda
Bangs, George A	Oakland	Alameda
Bohlender, Ernest	Berkeley	Alameda
Booth, Robert	Nanaimo	British Columbia
Brown, Esco C	Los Angeles	Los Angeles
Cameron, Donald D	Coalinga	Kern
Cloutman, Joseph	San Francisco	San Francisco
Craig, Walter	Martinez	Contra Costa
Crowley, Ernest C	Suisun	Solano
Curry, William L	Los Angeles	Los Angeles
Cunha, Anthony	San Lorenzo	Alameda
Dean, Franklin	Los Angeles	Los Angeles
Deckard, Everett	Melrose	Alameda
Domenichini, Renato	San Francisco	San Francisco
Ernst, Roy	Sacramento	Sacramento
Forester, Frank	Pomona	Los Angeles
Fruth, Raymond J	Los Angeles	Los Angeles
Groshell, Willie	Los Angeles	Los Angeles
Harlan, Leelan	Williams	Colusa
Hines, Charles J	San Francisco	San Francisco
Hocking, Frank	Eureka	Nevada
Kaunitz, Hilbert	San Francisco	San Francisco
Kenyon, Floyd	Chico	Butte
Kenyon, Roy	Chico	Butte
Lagman, Rogerio	Mexico Pampanga	Philippines
Lee, Cecil	San Francisco	San Francisco
Leonard, John	San Francisco	San Francisco
Leslie, Ernest	San Francisco	San Francisco
Lindsey, Perry R	Stockton	San Joaquin
Luna, Rafael	Los Angeles	Los Angeles
MacDonald, Carl	Sites	Colusa
McDonald, George	San Francisco	San Francisco
Miller, Valentine	Ukiah	Mendocino
Pettis, Charles	Fresno	Fresno
Platt, Raymond	Oakland	Alameda
Poulsen, Charles	Lompoc	Santa Barbara
Schlingheyde, Leslie	Berkeley	Alameda
Sheeley, Ira	Oakland	Alameda
Sheffield, Foy	Riverside	Riverside
Shepherd, James	Arcata	Humboldt
Sheppard, Eddy	Independence	Inyo
Smithers, Shelby	Cambria	San Luis Obispo
Sullivan, George G	Windsor	Sonoma
Taber, Henry	Doris	Siskiyou
Weis, Edward	San Francisco	San Francisco

BLIND GIRLS.

Name.	Town.	County.
Alison, Tilly	Lincoln	Placer
Barker, Laura	Cornwall	Contra Costa
Bowles, Jessa	Livermore	Alameda
Brodke, Flora	Oakland	Alameda

BLIND GIRLS—Continued.

Name.	Town.	County.
Brown, Marguerite	Stockton	San Joaquin
Carmichael, Ethel	Tiburon	Marin
Carter, Mabel	Los Angeles	Los Angeles
Chambers, Leah	Sacramento	Sacramento
Dawson, Kathleen	Los Angeles	Los Angeles
Dean, Martha	Long Beach	Los Angeles
Dixon, Edna	Los Angeles	Los Angeles
Elison, Ruby	San Francisco	San Francisco
French, Marguerite	Oakland	Alameda
Glass, Dolly	Lathrop	San Joaquin
Graham, Marguerite	Berkeley	Alameda
Hamann, Eva	Kennett	Shasta
Herold, Irene	San Jose	Santa Clara
Hickcox, Winifred	Etiwanda	San Bernardino
High, Minnie	Berkeley	Alameda
Jeffrey, Minnie	San Francisco	San Francisco
Keough, Margaret	San Francisco	San Francisco
La Flamme, Bernice	Los Angeles	Los Angeles
Lopez, Anita	Los Angeles	Los Angeles
Mange, Clorinda	Alameda	Alameda
Mann, Elvina	Los Angeles	Los Angeles
McAtee, Marguerite	San Francisco	San Francisco
Meech, Hazelle	Beckwith	Plumas
Morris, Nellie A	Oakland	Alameda
Muir, Marguerite	Oakland	Alameda
Murphy, Maud	Bauvard	Nevada
Myers, Florence M	Corona	Riverside
Nettleton, Agnes L	Berkeley	Alameda
Phillips, Frances	Winnemucca	Nevada
Pierson, Edith E	Oracle	Arizona
Piper, Hazel	Virginia City	Nevada
Reilly, Rose E	Bella Vista	Shasta
Reynolds, Ruth	San Leandro	Alameda
Schumacher, Annie	San Francisco	San Francisco
Shorten, Marion	San Francisco	San Francisco
Smith, Dorothy	Emeryville	Alameda
Ward, Marie	Calistoga	Napa
Watts, Nora	San Francisco	San Francisco
Wilbur, Leona	Oxnard	Ventura
Young, Louise	San Francisco	San Francisco

TERMS OF ADMISSION.

The California Institution for the Deaf and the Blind is located at Berkeley.

Between San Francisco and Berkeley railroads and ferries offer communication every ten minutes of the day, and from Oakland there are two lines of electric cars which land passengers within five minutes' walking distance of the institution.

The institution offers its benefits to all deaf or blind persons who are of age suitable for instruction, who are of sound intellect, and free from vicious habits and contagious or offensive diseases.

No charge is made for pupils from this State, except for clothing and traveling expenses.

Pupils from other states or territories are charged $340 per annum, payable quarterly in advance. No reduction is made from annual charge, except in case of prolonged absence by reason of sickness.

The session begins on the fourth Wednesday in August, and ends on the second Wednesday in June. Parents are earnestly requested to enter or return their children promptly at the beginning of the term. Only in extreme cases will pupils be permitted to leave before school closes.

Pupils should be provided with comfortable clothing when they enter the institution, and their wardrobe renewed twice a year.

All moneys designed for pupils should be placed in the hands of the Principal, to whom also all letters of inquiry should be addressed. Money orders should be drawn on the Berkeley post office, and all letters, packages, trunks, etc., should be addressed ''Institution for the Deaf and the Blind, Berkeley, Cal.''

Parents or guardians of applicants for admission are requested to furnish answers to the following questions:

1. What is the name of the applicant?

2. When and where was he born?

3. Is his deafness or blindness from birth, or is it from accident or disease? If from accident or disease, at what age and from what cause did he become deaf or blind?

4. Is his deafness or blindness total or partial? If the latter, what is his degree of hearing or sight?

5. Have any attempts been made to remove his deafness or blindness? If so, what were the results?

6. Are there any other cases of deafness, blindness, idiocy, or insanity in the family, or among the collateral branches of kindred? If so, state the relationship?

7. Was there any blood relationship between parents or grandparents?

8. Has the child had smallpox, scarlet fever, mumps, whooping-cough, or measles? Has it been vaccinated?

9. What are the names, nationality, and post office address of parents?

10. What is the number of other children?

11. How long have parents lived in California?

FOURTH BIENNIAL REPORT

OF THE

State Board of Charities and Corrections

OF THE

STATE OF CALIFORNIA

FROM

JULY 1, 1908, TO JUNE 30, 1910

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING
1910

ROSTER OF THE

STATE BOARD OF CHARITIES AND CORRECTIONS.

	From.	To.
EX OFFICIO.		
GOVERNOR GEORGE C. PARDEE	1903	1907
GOVERNOR JAMES N. GILLETT	1907	——
MEMBERS.		
O. K. CUSHING, San Francisco	June 30, 1903	Feb. 17, 1908
ANDREW M. DAVIS, San Francisco	June 30, 1903	Feb. 17, 1908
W. C. PATTERSON, Los Angeles	June 30, 1903	Feb. 17, 1908
E. C. MOORE, Los Angeles	June 30, 1903	——
J. K. McLEAN, Berkeley	June 30, 1903	——
CHARLES A. RAMM, San Francisco	June 30, 1903	——
R. S. TAYLOR, Yreka	Feb. 17, 1908	Feb. —, 1910
LOUIS ROSENTHAL, San Francisco	Feb. 17, 1908	——
W. S. TINNING, Martinez	Feb. 17, 1908	——
CLARA SHORTRIDGE FOLTZ, Los Angeles	Feb. —, 1910	——
SECRETARY.		
W. ALMONT GATES, Berkeley	Sept. 19, 1903	——

STATE BOARD OF CHARITIES AND CORRECTIONS.

June 30, 1910.

GOVERNOR JAMES N. GILLETT, *ex officio*	Sacramento
CLARA SHORTRIDGE FOLTZ	Los Angeles
J. K. McLEAN	Berkeley
E. C. MOORE	Los Angeles
CHARLES A. RAMM	San Francisco
LOUIS ROSENTHAL	San Francisco
W. S. TINNING	Martinez

ORGANIZATION OF BOARD.

J. K. McLEAN, Berkeley	*President*
LOUIS ROSENTHAL, San Francisco	*Vice-President*
W. ALMONT GATES, Berkeley	*Secretary*
ANITA ELDRIDGE, San Francisco	*Clerk*

Offices of Board,
711 The Merchants' Exchange,
San Francisco.

STANDING COMMITTEES FOR THE CURRENT YEAR.

1. Penal and Reformatory Institutions—Messrs. Tinning, Moore, and Rosenthal.
2. Insane and Defectives—Messrs. Ramm, Tinning, and McLean.
3. County Institutions—Messrs. Moore, Ramm, and Mrs. Foltz.
4. Statistics and Publications—Mrs. Foltz, Messrs. Moore and McLean.
5. Auditing—Messrs. Rosenthal and Ramm.

San Francisco, Cal., November 12, 1910.

To His Excellency, James N. Gillett, *Governor,*
State Capitol, Sacramento, California.

Dear Sir: We have the honor to transmit herewith our fourth biennial report, covering the two years ending June 30, 1910, showing in detail:

First—The condition of the institutions under our supervision, with such suggestions as we deem necessary for legislative and executive action;

Second—Such further suggestions as we deem necessary and pertinent for the best interests of the State in the general field of charities and corrections; and

Third—The transactions of the Board for the biennial period commencing July 1, 1908, and ending June 30, 1910.

Respectfully submitted.

J. K. McLEAN,
LOUIS ROSENTHAL,
CLARA SHORTRIDGE FOLTZ,
W. S. TINNING,
CHAS. A. RAMM,
State Board of Charities and Corrections.

W. ALMONT GATES, *Secretary.*

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AN ACT TO CREATE A STATE BOARD OF CHARITIES AND CORRECTIONS, PRESCRIBING ITS DUTIES AND POWERS, AND APPROPRIATING MONEY THEREFOR.

[Approved March 25, 1903.]

The people of the State of California, represented in Senate and Assembly, do enact as follows:

Section 1. A State Board of Charities and Corrections is hereby created of six members, to be appointed by the Governor, with the advice and consent of the Senate, not more than three of whom shall be of the same political party. Such members shall hold office for the period of twelve years, and until their successors are appointed and qualified; *provided*, that the members of the first Board appointed under this act shall, at their first meeting, so classify themselves by lot that two of them shall go out of office at the end of four years, two at the end of eight years, and two at the end of twelve years, and an entry of such classification shall be made in the minutes of said Board, and a duplicate thereof shall be filed in the office of the Secretary of State. Women may be appointed members of said Board, or hold any position in the appointment of said Board. No person shall be appointed a member or continue to act as such while he is a trustee, manager, director or other administrative officer of an institution, subject to the terms of this act. Appointments to fill vacancies before the expiration of such terms shall be made for the residue of terms in the same manner as original appointments. The Governor shall be ex officio a member of said Board.

Sec. 2. The members shall act without compensation, but shall be allowed their actual necessary expenses. The said Board may appoint a secretary, who shall receive such salary as may be determined by said Board, not to exceed twenty-four hundred ($2,400) dollars per annum. All the expenses of said Board, including the salary of the secretary, shall not exceed the sum of six thousand ($6,000) dollars in any one fiscal year, and said sum of six thousand ($6,000) dollars is hereby appropriated annually therefor out of any moneys in the treasury not otherwise appropriated. The secretary of said Board shall execute a bond in the sum of five thousand ($5,000) dollars, and take the oath of office prescribed by the Political Code for the executive officers of this State. The Board shall provide itself with an office in the city and county of San Francisco. Meetings of the Board may be held at such times and in such places in the State of California as said Board may deem fit. It may make such rules and orders for the regulation of its own proceedings as it may deem necessary, and may fix the number of members necessary to constitute a quorum. The failure of a member to attend three consecutive meetings of said Board during any calendar year, unless excused by formal vote of the Board, may be construed by the Governor as a resignation of said nonattending member.

Sec. 3. The Board is hereby empowered and authorized, and it shall be its duty as a whole, or by committee, or by its secretary, to investigate, examine, and make reports upon the charitable, correctional, and penal institutions of the State, including the State hospitals for the insane, of the counties, cities and counties, cities, and towns of the State, and such public officers as are in any way responsible for the administration of public funds used for the relief or maintenance of the poor in public institutions or of any of the inmates of said institutions. All the persons or officers in charge of or connected with such public institutions, or with the administration of said funds, are hereby required to furnish to the Board or its commmittee or secretary such information and statistics as they may request or require, and allow said Board, committee, or secretary free access to all departments of such institutions and to all of their records. In order to secure accuracy, uniformity, and completeness in such statistics and information, the Board may prescribe such forms of report and records by the State Commission in Lunacy regarding the State hospitals for the insane and by such other officers, boards, or institutions as it may deem necessary, and also such forms of registration at all public institutions referred to in this section as it may require. The State Commission in Lunacy, on behalf of the institutions under its charge, and the officers of all other institutions, and all officers in any way responsible for public funds used for the relief of the poor or the maintenance of any inmates of said public institutions, are hereby required to follow such forms, records, and registration so prescribed; *provided*, that the intent of this law is that, so far as possible, the Board shall make use of the forms of report, record, and registration now obtaining in the State Commission of Lunacy and other State boards and institutions. All plans of new buildings, or parts of buildings for any of the public institutions coming under the provisions of this act, or any additions or alterations in such buildings, shall, before their adoption by the proper officials, be submitted to the Board for suggestions and criticism.

SEC. 4. The Board shall have power to issue compulsory process to compel the attendance of any witness before said Board or any member thereof, and to require the production of such books or papers relating to any public institution mentioned in section three of this act as they may deem necessary; *provided*, that no witness shall be required to attend before said Board out of the county in which he resides. Any member of said Board shall have power, and he is hereby authorized to administer an oath to any and all witnesses coming before said Board, or any member thereof, for examination, and to examine such witness or witnesses in reference to any matter relating to public institutions mentioned in section three of this act, appertaining to the inquiry before the Board or said member. Disobedience of a subpœna issued by said Board or refusal to be sworn, or to answer, shall subject such person disobeying or refusing to a forfeiture of one hundred dollars, to be recovered in a civil action brought in a court of competent jurisdiction by said Board in its name as plaintiff, the money recovered to be appropriated to the use of said Board.

SEC. 5. No provision in this act contained shall in any way be construed as preventing the Governor of this State from making a plenary investigation in reference to the conduct of any public institutions under the terms of any act of the legislature of this State. Furthermore, the Governor may at any time order an investigation by the Board, or by a committee of its members, of the management of the above-named institutions, or any thereof.

SEC. 6. Three months prior to each regular session of the legislature the Board shall make a full and complete report to the Governor of all its transactions during the preceding two years, showing fully and in detail all expenses incurred any moneys paid out by it, and giving a list of all officers and agents employed, and the actual condition of all institutions under its supervision with such suggestions as it may deem necessary and pertinent, and with recommendations for legislative and executive action.

SEC. 7. The provisions of this act shall not apply to the Veterans' Home of California, located at Yountville, Napa County, nor to the Woman's Relief Corps Home at Evergreen, Santa Clara County.

SEC. 8. All acts and parts of acts in conflict with the provisions of this act are hereby repealed.

SEC. 9. This act shall be in force and take effect from and after its passage.

BY-LAWS.

OFFICERS.

The Board shall elect a president, whose duty it shall be to preside at all meetings and perform such other duties as usually pertain to the office of president, and who shall hold office for one year from and after the second Saturday in August of each year.

The Board shall elect a vice-president, who shall hold office for the same time, and who shall perform the duties of the president in case of the absence of the latter or his inability to act.

The Board shall elect a secretary, who shall hold office during the pleasure of the Board, and who shall receive such salary as the Board may determine, and whose duty it shall be to keep a record of the proceedings of the Board, to have charge of its office as executive officer, and to perform such other duties as are contemplated by the law creating the Board, and as the Board may from time to time direct.

MEETINGS.

The Board shall hold regular quarterly meetings on the second Saturday of February, May, August, and November of each year, at ten o'clock a. m., at its offices in San Francisco.

Special meetings may be held at the call of the president or of three members at such times and places as may be fixed. Notices of special meetings shall be mailed to the address of each member at least five days before the date of meeting.

The Board may meet at any time and place without notice, if six of the members are present or give their written consent thereto.

The nature of the business to be transacted shall be stated in the notice of special meetings, and no other business shall be transacted at such meeting without the consent of five members of the Board.

The president, vice-president, and secretary shall be elected or appointed only at a regular meeting or an adjourned regular meeting.

EXPENDITURES.

The secretary shall keep an itemized account of the expenditures of the Board, and of each member or officer thereof.

An Auditing Committee of two shall be appointed, whose duty it shall be to audit all expenditures of the Board, or any of its members or officers.

QUORUM.

Four members shall constitute a quorum, and a less number can not transact any business except to adjourn from day to day.

AMENDMENTS.

These by-laws may be amended by the vote of four members at any regular meeting without notice, or at a special meeting, provided notice in writing of the proposed amendment is mailed to each member five days before the date of meeting. The by-laws may be amended or suspended at any time by the unanimous vote of six members.

INSTITUTIONS UNDER THE SUPERVISION OF THE STATE BOARD OF CHARITIES AND CORRECTIONS.

1. The State Prison at San Quentin. John E. Hoyle, Warden.
2. The State Prison at Folsom. Wm. H. Reilly, Warden.
3. The Preston School of Industry at Ione. C. H. Dunton, Superintendent.
4. The Whittier State School at Whittier. J. P. Greeley, Superintendent.
5. The State Insane Hospital at Stockton. Fred P. Clark, M.D., Superintendent.
6. The State Insane Hospital at Napa. Elmer E. Stone, M.D., Superintendent.
7. The State Insane Hospital at Agnew. Leonard Stocking, M.D., Superintendent.
8. The State Insane Hospital at Ukiah. E. W. King, M.D., Superintendent.
9. The State Insane Hospital at Patton. E. S. Blair, M.D., Superintendent.
10. The Sonoma State Home at Eldridge. Wm. J. G. Dawson, M.D., Superintendent.
11. The Institution for the Deaf and Blind at Berkeley. Douglas Keith, Principal.
12. The Industrial Home for the Adult Blind at Oakland. Joseph Sanders, Superintendent.
13. County hospitals and almshouses, 60.
14. County jails, 58.
15. City prisons and village lock-ups.

RECOMMENDATIONS FOR LEGISLATIVE AND EXECUTIVE ACTION.

STATE REFORMATORY.

1. That a state reformatory be created as soon as possible for prisoners between the ages of sixteen and thirty years, who have never before been convicted of a felony, such prisoners to be committed upon an indeterminate sentence.

STATE PRISONS.

2. That the system of labor in our state prisons be radically revised, to the end that our prisoners may be taught some honest means of earning a livelihood, and that our prisons may become more nearly self-sustaining, and for that purpose we recommend the "State use system," that is, the manufacture of articles for use in other public institutions of the State.

STATE REFORM SCHOOLS.

3. That an appropriation be made for, and the construction be authorized of, a separate school building at each of our state reform schools.

4. That an appropriation of at least six thousand dollars be made for the purpose of perfecting and extending the parole work of each of the state reform schools.

STATE HOSPITALS FOR INSANE.

5. That the State Hospitals for Insane be authorized to accept for treatment voluntary patients who are legal residents of the State, and who are proper subjects for treatment in such hospitals, without the formality of a legal commitment.

SONOMA STATE HOME.

6. That, as soon as expedient, a separate colony be established in connection with the Home, for the custodial care of adult feeble-minded women of child-bearing age.

DEPENDENT CHILDREN.

7. That a law be enacted requiring that the question of dependency of a child shall be determined by a court, before state aid shall be given towards the maintenance of any such child, and providing the method of such determination.

8. That the various "child placing" agencies or associations, engaged in the work of procuring homes for, and placing out, dependent children, be brought under the supervision of the State Board of Charities and Corrections.

9. That the orphan asylums of the State, receiving state aid, be required to make such reports to the State Board of Charities and Corrections as that Board may call for, and that the Board be authorized and required to visit and report upon all such institutions.

MATRONS IN COUNTY JAILS.

10. That a law be enacted compelling the employment of a matron in every county jail, and prohibiting the handling and care of female prisoners by male jailers exclusively.

BOARD OF CHARITIES AND CORRECTIONS.

11. That provision be made for a chief clerk in the office of the Board of Charities and Corrections, who shall rank next to the secretary in authority and be under his direction, and who shall serve as librarian and statistician of the Board, and perform such other services as inspector, or otherwise, as may be directed by the Board or secretary.

12. That provision be made for the printing, publishing, and mailing of a quarterly bulletin, under the direction of the Board of Charities and Corrections.

13. That authority be given the Board of Charities and Corrections to collect statistics of cost of county almshouses and jails, and of the relief of indigents.

PENALTY FOR FAILURE TO MAKE REPORTS.

14. That a penalty be attached for neglect or refusal on the part of any public officer, or the superintendent or managers of any charitable or correctional institution, to furnish any report now or hereafter authorized or required by law, being first requested so to do.

GENERAL REPORT OF THE BOARD.

The statute creating this Board provides that "three months prior to each regular session of the legislature the Board shall make a full and complete report to the Governor of all its transactions during the preceding two years, showing in detail all expenses incurred and moneys paid out by it, giving a list of all officers and agents employed, and the actual condition of all institutions under its supervision, with such suggestions as it may deem necessary and pertinent, and with recommendations for legislative and executive action."

BOARD OF CHARITIES AND CORRECTIONS.

Changes in the Board. Since the report of this Board was made two years ago, the Board has lost two of its members.

Mr. R. S. Taylor, of Yreka, found that his private business would prevent him from performing his duties as a member of the Board, and tendered his resignation. The Governor appointed Mrs. Clara Shortridge Foltz, of Los Angeles, to fill the vacancy.

Dr. E. C. Moore was one of the first appointees upon the Board, and was its first president. On August 1, 1910, he left his former position of City Superintendent of Schools of Los Angeles to become Professor of Education in Yale University. He severs his connection with this Board by ceasing to be a resident of the State. In Dr. Moore's removal the State has lost one of its great educators, and this Board a most valuable member. He was as faithful in his work on the Board as he was able. We had the benefit, however, of his counsel and advice in formulating the conclusions given in this report.

More office force needed. This Board has been unable to do the work it would like to do, and that it should do, from lack of means and equipment. The office force at present consists of the Secretary and one clerk. The Secretary is compelled to do a large amount of detail work and clerical labor when his time should be fully devoted to the larger affairs of the office. This State is large in territory, and transportation to its various counties is difficult and requires much time. With much smaller territory to cover, the state boards of other states have the following employees: Massachusetts 82, New York 32, Indiana 11, Illinois 9, Ohio 4. To do the work of this Board as it should be done requires an increased office force.

Inspection and supervision of institutions. A State Board of Charities and Corrections is a representative of the people. The institutions of a state belong to the people. They pay the money to maintain them, and it is their right to visit them and see how they are conducted. This they can not do even in the city and county, much less in the State. There is nothing connected with state government about which the people know so little as about their state institutions. Who, then, is to tell whether the wards of the State are getting the proper care and treatment, or whether the money given for their maintenance is being honestly expended, or so expended as to produce the best results? If the people are to know these things, they must have representatives to visit the institutions for them and report what is found there. For that purpose was this Board created, and to that end this report is made.

The importance of supervision can be best understood when we consider that during the past two years over eighteen thousand (18,346) wards have been in our state charitable and correctional institutions, and over four and a quarter millions of dollars ($4,253,740.47) have been expended in their care and support, and that over ninety-one thousand (91,842) wards have been in our county institutions, and that over one million dollars has been expended in their behalf. In the proper inspection and supervision of these institutions much good will result to those who are confined there, and much money will ultimately be saved to the taxpayers, but much more can be accomplished by inaugurating methods of prevention, which will cut off the source of supply. This work, however, is mostly in the abstract. It can not be measured up or looked upon with the eye. It is too important not to be well done.

The members of such a board, having different political affiliations, and being connected with different church denominations and with no church, and having nothing to do with the expenditure of a single dollar appropriated for the maintenance of these institutions, are in a position to act impartially. During the biennial period the members of the Board have visited the various state charitable and correctional institutions, and the Secretary has also visited all of them frequently. In the beginning the Board directed the Secretary to make official inspections, and in doing so he goes unannounced and at irregular intervals. In making an inspection he endeavors to see every inmate and every room, to know the condition of the inmates, the condition of the institution itself, and the methods of administration and management.

Investigation of complaints. Under the old system the legislature was the only constitutional authority for investigating an institution. This met biennially, and if scandals developed between sessions, it was possible for the "trouble breeders" to wreck an institution before an investigation could be made. Fortunately, during the past two years, no such scandals have arisen in this State, but in the past there have been occasions when this Board has been called upon to make such investigations. The Board, however, felt compelled to make an investigation into the conditions prevailing at one of our state institutions, which it did, and made its report to the Governor. It resulted in a change of superintendents. The knowledge that a board of this character is ready to act promptly in all cases has a salutary effect, and the Board also becomes a tower of strength in the face of the unjust criticism of an institution. False accusations can be at once exposed, and the management relieved from this danger and the public mind set at rest.

The Board believes that it is more desirable to prevent bad conditions by timely suggestions and aid rather than to let them grow until they become a public scandal. It, therefore, follows the practice of first making its suggestions to the management, and only in case these suggestions go unheeded, or conditions seem to warrant more severe action, does it report to higher authority.

The powers of this Board end with making its report either to the Governor or public, or both. It has no power of removal and no power of appointment. The Board can only make abuses public; the power of correction lies with others.

Criticism of plans of new buildings. The law creating this Board provides as follows: "All plans of new buildings, or parts of buildings, for any of the public institutions coming under the provisions of this act, or any additions or alterations in such buildings, shall, before their adoption by the proper officials, be submitted to the Board for suggestions and criticism."

It was rightly contemplated that the Board thus created would not only make a study of the best methods of housing and care, but would make themselves familiar with what existed in other states and other countries, and would thus be able to offer valuable suggestions in regard to, or criticisms of, proposed buildings. Such duties are imposed on similar boards of other states, and this Board has endeavored to prepare itself to perform that part of its duties.

Four years ago the legislature created a Department of Engineering, which provided for a State Architect, and took the making of plans for new buildings for state institutions from the local board of managers. This department has interpreted the law as exempting it from any obligation to consult this Board, and has accordingly not done so. The State Board of Charities and Corrections, therefore, has had no opportunity to offer suggestions or make criticisms upon any of the plans for new buildings in connection with our state institutions since the creation of the Department of Engineering.

The Board has received plans for new county jails in the counties of Lassen, Madera, and Stanislaus, and plans for a new hospital building in the county of Contra Costa. The Board has been consulted in reference to the plans for new county jails in San Francisco and San Luis Obispo counties. In each case our suggestions and criticisms have been made in writing, and have invariably been accepted by the architects and supervisors.

The new jails in Alameda and Sacramento counties have been completed and are very satisfactory. They are among the best in the country. These will now be the models for other counties, and in time we may expect our county jails to be a credit to our State.

General study of charities. The Board has not only familiarized itself with the charities of this State, but has tried to become acquainted with the work in other states. For that purpose the Secretary and usually one member of the Board have attended such national gatherings as the National Conference of Charities and Corrections and the American Prison Congress, and have visited the institutions of other states. The Secretary presented a paper at the National Conference at Buffalo, New York, upon "Oriental Immigration on the Pacific Coast," and one at the American Prison Congress at Seattle upon "Our County Jails."

Some statistics desired. There are some statistics which this Board considers it very important to show, which it is not now able to get. These include reports from the county auditors of the expenses of county hospitals, almshouses, and jails, and also the amounts disbursed in poor relief in the various counties. The statute creating this Board does not give it the right to demand this information, or make it obligatory upon the auditors to furnish it. As a result, we are unable to get with any degree of accuracy the cost of the poor to the counties of the State. It has been said that the relief of the poor in their homes has been abused in many places, and that a system is in operation which is making paupers rather than relieving the actual needy. If such is the case it ought to be made known, that it may be corrected. The collection of statistics ought not to be feared by the right-minded, and this Board asks of the legislature authority to compel the furnishing of such statistical reports.

Inspection of minor jails. There are in the State twelve charitable and correctional institutions, sixty county hospitals and almshouses, and fifty-seven county jails. In addition to these, there are about 300 station houses, branch jails, city and town lock-ups. In all of these minor jails persons charged with crime are held. It is common knowledge that the conditions in some of them are very bad. The law makes it the duty of this Board to visit and inspect them all. At present the work must be done either by the members or by the Secretary. The

Secretary has visited all of the state institutions several times, and has also visited nearly all of the county hospitals and almshouses and county jails. It is impossible for the members of the Board or the Secretary to visit any considerable number of these minor prisons. If the Board is to perform its duty in respect to these it will be necessary to appoint an inspector for that purpose, and to provide the means for paying his salary and expenses. The Board can not do this on the present annual appropriation.

Publication of a bulletin of charities. The Board, early in its existence, commenced the publication of a monthly census bulletin of the inmates of the state institutions. This has consisted of a single page, printed on a neostyle. Under this process the number from a single stencil is limited to about 200 copies. This bulletin has been mailed monthly to all superintendents and members of the governing boards of state institutions, state officers, and various newspapers. The demand for this, simple as it is, has exceeded our facilities. Again, there are many things arising in the course of our work which are of interest to the public and which the Board would be glad to print and circulate if able to do so. The reports of inspections now await the biennial report before being given to the public, when they would be of more value if given while fresh. Frequently papers will be presented, or addresses given, of general interest in this field, but which do not now find their way to the public. These needs have been felt in other states where there are boards of charities, and have been met by the publication of a quarterly bulletin. The general work of charities and corrections in this State would be greatly advanced by the publication of such a bulletin, and this Board will gladly undertake the labor if an appropriation to cover the cost of printing and postage can be made.

Appropriation needed. This Board asked two years ago for an additional appropriation to enable it to do the particular things just outlined, but it was not made. We estimate that the appropriation should be $10,000 per year instead of $6,000 heretofore made. We earnestly ask this legislature for such increase, and promise to render a good account for the extra money expended.

PRISONS AND PRISONERS.

Prisons crowded. In every report since its organization this Board has complained of the crowded condition of our prisons. Since our first report the increase in the number of prisoners has been 579. We have not yet an additional cell available, but will have a new modern cell house of 800 cells about January 1st. This is but little more than the increase, and the need for more cells is almost as great as when our first report was made six years ago. Nothing has been done at Folsom toward the construction of new cells except to clear the site and quarry some of the stone, and it will be several years before any new cells are ready at this prison.

Reformatory needed. As we stated in our last two reports, we think the need for a state reformatory is greatest. It will separate the first offender from the hardened criminal, and provide a means of training into a good citizen the young man who has but taken his first steps in crime. There are in our prisons to-day probably 800 who would have been proper subjects for such training. There are over 300 prisoners in our prisons under 21 years of age. To San Quentin was committed a boy 14 years of age, and to Folsom came a youth of 18 to serve a fifty-year sentence. At present we compel young men to associate with the old criminals, and send them forth at the end of their terms branded in all probability for eternity. It will greatly pay the State to train these young men for good citizenship, rather than for criminal careers.

Such a reformatory should be located on at least 500 acres of good land, so that agriculture in its various branches could be taught, and at the same time a large part of the necessary supplies grown. All the various trades should be taught, so that upon going out the men would scatter through all the various occupations. In this way no trade would be affected by the small additions received.

The plans should provide for a thousand inmates, but the work of construction should run through a term of years, so that it could be done mainly by the prisoners themselves. The main buildings should be enclosed by a wall and should include not less than 20 acres of ground. We recommend an appropriation of at least $200,000 to purchase a site and start the work of building. Commitments may be made after proclamation by the Governor that it is ready to receive prisoners. There should also be provided a method of transfer of prisoners from the two state prisons.

Cell house at San Quentin. There should also be an appropriation to extend the cell house at San Quentin, and especially for a kitchen and dining-room building and a chapel.

Prison labor. In our last two reports we have fully discussed the labor problems in our prisons and have recommended the "State use system." (See 1906 Report, pages 34 to 40, and 1908 Report, pages 35 to 37.) The problem of the proper employment of prisoners is an acute one, and an effort should be made to solve it by the coming legislature. The prisoners at Folsom will be well occupied for several years to come in new construction, which requires much labor in the cutting, dressing, and laying of stone. This work, while not bringing in a revenue, is of great benefit to the State, and also prepares prisoners for some occupation when they leave the prison.

At San Quentin the main industry, that of making jute bags, has been run at a loss to the State during the past two years of $3,616.98. To this should be added the support of 900 men working in the jute mill two years, which cost $218,204.50. There are two reasons for this loss: first, we have been making and selling jute bags in a falling market; second, our competition is with the manufacturers of Calcutta, India, where the cost of labor is only 16 cents a day, the laborer supporting himself. The cost of boarding and clothing our prisoners last year was 32.3 cents a day each, or more than twice the cost of labor in India. The first objection will probably be overcome during the next two years, as jute prices are now rising, but the second is constitutional and can not be met. This industry can not be made profitable. It is also unhealthy, and has in it no educative value. The men engaged in it can not find employment in this industry anywhere else in all this country. They may not like it, but being able to do nothing else, they seem to return to the one place where they can follow it. We have at San Quentin a large four-story brick building, well constructed, that is now not fully used and can be easily vacated when the new cell house is occupied. This was built for a furniture factory. It would require but little expense to put this building again into use in making furniture for state use. It will only require requisite legislative authority, and we recommend that this be given.

Prisoners on parole. The number of prisoners in our prisons would have been much larger had it not been for the great increase in the number of prisoners placed on parole. On June 1, 1908, there were 179 of our prisoners on parole, while on June 30, 1910, there were 338. There were paroled during the two years 448, while the total number of paroles granted since the enactment of the law in 1893 is only 984. While, therefore, this law has been on our statute books seventeen years, 45.6 per cent of all the paroles granted have been granted in the last two years. Of the total of 627 prisoners who have been on parole at some time during the last two years, only 44 have broken their paroles and been returned to prison. A few are yet at large, but during the seventeen years since the passage of the act there are only 34 parole breakers now at large. We have in our prisons a large number of recidivists, reaching as high as the eighth and tenth terms, but of the paroled men who have kept their paroles and been discharged or pardoned, we have record of only one who has again been convicted of crime. These paroled men have also earned during the time they have been on parole $643,822.34, and their savings from these earnings have amounted to $150,984.33. How much better is this than keeping them in prison during their full terms, at an expense to the State of about $180 a year for each prisoner. Had these men been kept in prison until the end of their terms they would have cost the State an estimated amount of $525,000.

Much as this parole system has done for the State, it can and should be improved. The statement was recently made by the efficient parole agent of our prisons that there were then in our prisons 300 prisoners who were entitled to parole under the law, with the exception that they could not make the $25 deposit demanded by a rule of the Board of Prison Directors, and pay their transportation to their place of employment, or had no place of employment to which they could go. No person can make money while in prison, and no prisoner should be denied a parole who by his good conduct has earned one. Nor should contributions be solicited from the charitable public for this purpose, as is now being done. The State is to-day the great beneficiary from the paroling of prisoners. It saves $180 a year on each prisoner in cost of maintenance. This saving will much more than compensate the State for the expense of the few who break their paroles and have to be returned.

If the parole agent could visit and keep in touch with all his parole prisoners there would be fewer broken paroles. He should have also more time to find places for those entitled to parole and awaiting a place of occupation. No prisoner should be compelled to languish in prison just because the State has no time to find him a job. The present force employed is not sufficient to do this work properly. Considerable labor is involved in looking after 350 prisoners on parole and finding places for 300 more each year. We want to emphasize that this after-care of the prisoner, the assistance given him when he is trying to reëstablish himself in society, is the most important of all our prison work. Until this last two years it has received but little attention, and we are reaping the penalty in the large number of recidivists that have come back, some for the eighth and tenth terms. It is to our financial interest to have this part of our prison work well done.

The parole system in this State has certainly demonstrated its value in *reforming men* and in *saving expense* to the State. It has done all that this Board has claimed it would do in its previous reports. We believe it would be better if a sufficient special appropriation be made for the parole department of our prisons, to be expended under the direction of the Board of Prison Directors, and after a careful consideration we recommend the sum of $12,000 for this purpose during the next biennial period. We further recommend a further appropriation of $3,000, to pay the transportation of prisoners to their places of occupation and the cost of their return, when necessary, this to be in lieu of the cash demands now made upon the prisoners. We see no objection to requiring the prisoner to repay this cost of transportation from his earnings on parole, or to pay it from any money he may have on deposit with the warden. It must be remembered, however, that when a prisoner is discharged he is entitled to his transportation to the county from which he was committed, and to five dollars to enable him to make a new start. Why should not a paroled prisoner be entitled to the same assistance when necessary? What we have said about the aid of paroled prisoners should also apply to discharged prisoners who desire to accept it.

Pardons. We desire to commend especially the practice of our Governor, Hon. James N. Gillett, in the granting of pardons. He requires in nearly all cases that the prisoner first prove his worthiness on parole, and in cases where such worthiness has been proved the pardon has been given. This is a great incentive for the prisoner to "make good," and will have a good influence in making our prisoners good citizens.

Indeterminate sentence. Two years ago we recommended the passage of an indeterminate sentence law, but such law has not yet been enacted. The reasons for such a law we need not here repeat. It will, however, greatly aid and help the reformation of criminals by the parole method, and it will keep in prison the recidivist and save the expense of repeated commitments, for it should make a parole for a second-term prisoner more difficult than for the first, and for the third almost, if not quite, impossible.

REFORM SCHOOLS.

The State reform schools have done creditable work during the last two years. There have been committed 635, and the increase in the average daily attendance has been 163. We can expect an increase of from 75 to 100 a year. This number must be provided for. Our buildings are full, and new ones must be provided to meet this increase. These new buildings should be small cottages to accommodate from 20 to 40, the smaller number being the better.

Schools. Each of our reform schools should be provided with a separate school building of at least eight rooms. The school is the important part of the work of these institutions, and each boy and girl should be in school one half of each school day. Our schools are now scattered about, but should be collected together in one building for the best results. The rooms now occupied are in general needed for other purposes.

Parole officers. No boy or girl should leave a reform school except on parole, and should go into a position which has been found for him. These young persons need the personal touch and fatherly care much more than the older ones. During the last two years our two schools have each had a parole officer for this work, but heretofore the work has been neglected and the good work of the schools has been lost, on account of a failure to give the proper attention during the critical period. After being trained in an institution they must be set up in society if they are to become good citizens. We have not yet risen to the importance of this work. There were on parole June 30th last 433, and there went out on parole during the two years 482. That two persons can find homes, place out, and properly supervise this number is impossible. At present two parole officers are needed for each school. It is not right that a man should supervise the girls paroled from Whittier; a woman parole officer should also be employed there, and a man should be employed at Preston in addition to the good woman now employed at that school. We recommend a special appropriation of $6,000 for each of these schools for the salaries and traveling expenses of parole officers.

Removal of girls' school. In previous reports we have spoken of the desirability of separating the girls' school from the boys', and removing it to a more central location. From some parts of the State it is 800 miles to this school, and many girls would be sent to it who are not now, on account of the expense of reaching it. A large number have been confined in private institutions, largely on this account. As we have said before, the placing of boys and girls in the same institution, even though somewhat separated, is bad for both.

Commitments. Our recommendations for a uniform law for committing to the two reform schools bore fruit at the last legislative session, and we now have a good uniform law. It has worked satisfactorily, and at the present time we know of no changes required.

Resentences. It has become necessary in a number of cases to return a young man to the court for resentence, because he was not a proper subject for the reform school. It is natural that with the hopelessness of reformation in a state prison before him, the judge will take chances upon sending a boy to the reform school. A few of these have been bad, endangering the discipline of the school and contaminating many other boys. These cases have been returned to the court for resentence. The reform schools can not take the place of a reformatory.

One young man was sentenced by a judge of one of the northern counties to a term in state prison. There was an expression of public disapproval and a request that he be transferred to a reform school. This was done, but he soon showed his criminal character. It was later discovered that he had misrepresented his age, and that he had concealed the fact of a former imprisonment. He was returned to prison. The judge was right when he pronounced the original sentence.

CARE OF THE INSANE.

Treatment buildings. In 1906 this Board said in its report, "Our insane hospitals have been places for the detention of the chronic insane, and not places for the treatment of insanity as a disease." In that report we recommended that each hospital should, at an early date, be provided with cottages equipped with the best recognized modern appliances for the treatment of acute cases of insanity. We are now pleased to announce that all of our State hospitals are provided with such cottages, equipped with the best apparatus known to medical science for the treating of insanity. These cottages have been completed during the past year, and the one at Agnews is not yet in use. We have also constructed, or have under construction, cottages for the convalescent cases, to which the patient goes after having had sufficient treatment in the other building. These cottages are better furnished and more homelike than the buildings formerly used. Patients may now go to any of our five hospitals, receive treatment for insanity, recover, and go home without coming in contact with the great mass of chronic insane necessarily at all insane hospitals. The people of the State may now expect more and quicker cures than have been possible heretofore.

Voluntary commitments. We strongly recommend, however, that a law be enacted providing for the voluntary admission of insane patients into our treatment buildings, the necessity for such treatment to be decided by the medical staff of the hospital. This will do away with all expense of commitment and save the patient from the stigma of a judgment of insanity in a court of record. It can not be denied that there is a feeling that a commitment for insanity is a kind of criminal conviction. The patients would be saved this, and for that reason many would come in the earlier stages of the disease, when the chance of cure is much better. These cases would be voluntary and could not be kept by force, but we have faith to believe that if such a law were enacted, it would be but a few years when most cases would come in this way, and it might in time lead to the breaking down of the constitutional bars which now make a quasi-criminal procedure for the commitment of insane necessary.

Trained female nurses. Another improvement will be that in these new treatment buildings there will be a corps of trained female nurses, with two or three male porters to do heavy work when called upon. These female nurses will have charge of both male and female patients, as is now found in our general hospitals. The male attendant is now going, and his place will be taken by the trained woman. With this change will go most of the abuses of patients frequently complained of in our insane hospitals. Some of our hospitals have already inaugurated training schools for nurses.

Credit to legislatures. The accomplishments of the last four years have been more than we had reason to hope, owing mainly to the liberality of the two legislatures called upon to make the appropriations. All the superintendents, including the State Superintendent and the State Commission in Lunacy, have heartily entered into the work, and from this on we can take pride in being one of the leading states, if not the leading state, in the Union in the treatment of the insane.

Cheaper buildings for chronic insane. While we believe no expense should be spared in effecting cures in all recent and hopeful cases, we believe that in the past too much money has been spent for buildings for the chronic insane. We have a very large number whose brains are permanently affected and who must be cared for during the remainder of life. For these patients occupation is necessary, and a large number of them are efficient workers. These persons do not like large buildings. They want a comfortable place to sleep, good food, and plenty of outdoor life. A still larger number have so far lost their mentality that they have no care for their surroundings. To these one place is as good as another, but they should be out of doors as much as possible. At the Mendocino State Hospital we have a colony of wooden buildings, all of one story and inexpensive. This colony is very satisfactory to all, from the superintendent to the lowest patient. At Napa a very desirable group of cottages has been constructed of brick, at a moderate expense, and at Southern California Hospital metal lath and plaster have been used to the same good purpose.

Our expensive work is now done, and from this on we have only to provide for the increase of chronic insane, and we have reason to hope that this increase will now be reduced. Some of our hospitals are overcrowed with chronic insane, and probably between 300 and 400 are sleeping in beds made up on the corridor floors. This condition should be relieved by constructing the kind of cheap cottages above described.

Contingent fund. Our state hospitals have now a large contingent fund, made up from collections from relatives or from the estates of patients. This fund during the last two years was as follows:

Stockton	$51,547 79
Napa	90,479 87
Agnews	32,081 09
Mendocino	27,734 22
Southern California	77,873 75
Total	$279,716 72

This fund is now very large and should not be left to indiscriminate use, but some settled policy should be established. We believe it should be used first for up-keep, and then for construction of additional buildings when required. We believe, with few exceptional cases, that this fund could take care of both of these demands without special appropriations. If the time comes when it is not needed for these purposes, it could go into the State's general fund. This year some are using the contingent fund for support, and the last appropriation was made with that end in view. If this other policy is followed, then appropriations for salaries and support should be sufficient to meet these purposes. The estimates we have later given are upon this basis.

Psycopathic hospitals. There is a demand for another insane hospital in the southenr part of the State. In our last report we suggested a step which must be taken some time in the future—the establishment of psycopathic hospitals in or near our two largest centers of population. These hospitals would receive voluntary cases, and also fill the purpose of detention hospitals for cases pending examination and commitment. We believe that when it becomes necessary to construct a new hospital, it should be one of this character and not one for the detention of chronic insane, similar to the five we now have.

INDUSTRIAL TRAINING OF THE BLIND.

Deficiency of. We have two institutions for the blind, one an educational in connection with the deaf. The blind in regular attendance number about 85. They are given a good academic education, but little has been done heretofore in training them in any industry at which they can earn a livelihood. The other institution is an industrial home for adult blind. In the latter there are no industries except broom making and the cane seating of chairs. There is no effort made here to train for any other occupation. It too frequently occurs that a blind pupil goes from the educational institution to the Home, when, from a lack of industrial training, he becomes a State charge. To assist the blind to attain self-support will not only endow them with happiness, but save the State the burden of their idleness. This can be done, but we are not doing it. The new superintendent of the Institution for Deaf and Blind believes in such industrial training, and we earnestly hope that the plans which may be made for that purpose will be carried out.

The adult blind. The Home for Adult Blind has an average population of 110. It is expensive to maintain, the per capita being $270 per year. The reason for this is that we give most of the gross income from the industries to the inmates in wages. We furnish the plant, feed, and house the inmates, and receive from the gross sales about $1,200 per year, and pay to the inmates about $5,000 a year. The institute is almost a poorhouse, and our method is pauperizing the inmates. We believe that the method should be changed. If wages are to be paid, some charge should be made for board. However, the gross income is small, and unless the industries can be made more remunerative there will be little to pay. Possibly if a charge was made for board and wages paid by the piece, better results might follow. Certain it is that this institution is not doing what was predicted for it when it was founded.

STATISTICS OF CHILDREN'S INSTITUTIONS.

This Board succeeded last year in getting a census of population of the orphan asylums of the State, and of the private reformatory institutions and the children's home societies. This is the first time such statistics have been obtained in this State. These statistics were obtained by the courtesy of the officers of these institutions. Such statistics ought to be obtained each year, but this Board has no authority to get them. We found by the figures obtained that there were fewer in these asylums on a given day than was supposed. The number on September 30, 1909, was 5,322 and the number admitted during a year 2,390. The number passing out was still greater, but accurate numbers can not be given, as the question was misunderstood by many making out the reports. According to these reports, the average time a child remains in one of these institutions is little more than two years. The full statistics are given in Table XLIV.

DELINQUENT CHILDREN.

The last legislature enacted a juvenile court law upon the lines recommended by us in our last report. We consider this the best law of its kind yet enacted, and two years' experience has only confirmed the belief of those having to do with juvenile delinquency of the wisdom of this method of treating the delinquent child. Among the important features of this law are the following:

A special court to deal with children.

The assistance and advice of a probation committee of the county.

The placing of the child upon probation, instead of in prison.

A paid probation officer or officers for every county, in whose custody these children are placed.

The severing of the rights of the parent to the custody of the child in cases where the welfare of the child requires it.

The extension of the court's jurisdiction to those adults contributing to child delinquency, and making the offense a misdemeanor.

The work for the delinquent child is now in satisfactory condition, and we may confidently expect to see good where the law is being wisely administered. There are a few counties that have not yet risen to the possibilities of this law.

OUR DEPENDENT CHILDREN.*

The child has a divine right to nurture and training until he has acquired the ability to care for himself. The duty of giving this nurture and training is rightly placed, in our social system, upon the parents who have brought him into the world. For the fulfillment of this obligation both parents are liable, as the individual members of a copartnership. To secure this purpose completely, the integrity of the family is essential, and the family home is protected by law. But the home often fails. It may be broken up by the death of one or both parents, by the failure of parents to meet their moral obligations, or by the separation of parents and an abandonment of duty. When the natural parents thus fail in their duty toward their child, from whatever cause, he becomes dependent upon others and is then called a "dependent child."

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*From an address delivered by Secretary Gates before The Commonwealth Club, April, 1910.

In early days the care of the dependent child devolved upon the overseers of the poor, and the place provided for him was usually the almshouse. Even to-day, in parts of this country many children are found in almshouses. The next step in advance was the establishment of children's homes or orphan asylums. These are of three distinct types, according to the method of control. In some states they are constructed by the various counties, or by several counties joining together, as in Connecticut and Ohio; in others, there is but one such institution, under the control of the State, as in Michigan, Wisconsin, and Minnesota. In still others, the asylums are built and controlled by private charity, as in New York, Indiana, and California.

Orphan asylums. In this State, the private orphan asylum has from early days been the medium for the care of the dependent child. There are now 44 such institutions. This Board, under date of September 30, 1909, obtained reports from all of these institutions, which reports show the following numbers:

	Boys.	Girls.	Total.
Under 5 years of age	361	322	683
Between 5 and 10 years of age	1,045	953	1,998
Between 10 and 14 years of age	1,245	863	2,108
Over 14 years of age	260	273	533
Totals	2,911	2,411	5,322

These orphan asylums receive their funds for support from aid paid by the State and private charity. The State pays to these institutions for each full orphan supported $100 per year; for each half-orphan $75 per year; for each abandoned child $75 per year; and for each foundling $12.50 per month until 18 months old. The total amount of aid given to the orphan asylums by the State during the year 1909 was $272,237.72. This is a reduction of about $28,000 from the previous year.

But this sum by no means represents the cost of maintaining the orphan asylums. Private charity is called upon for a large contribution. In a paper read before the fourth State Conference of Charities and Corrections, Mr. Pillsbury, then secretary of the State Board of Examiners, stated that from the best figures that board could obtain, the State paid about three fifths of the cost of maintaining the orphan children at the orphan asylums. Mr. Pillsbury further said, "The conducting of an orphanage can not, so far as State aid is concerned, be considered a gainful pursuit. If there is any profit in it, it must be because of the opportunity offered for soliciting funds outside. The benevolent public needs protection, but I do not know of any one of the forty-four orphanages that has not a bona fide need for aid far beyond that extended by the State."

It is the opinion of the writer that many of the orphan asylums need more money than they are able to get. They have to economize to give the necessaries to their children, and those doing the labor make many sacrifices in the interests of the children under their care. It is to them a work of philanthropy, and is probably never properly rewarded financially. When the funds are insufficient to meet all the needs, some branches of the work must suffer. This is more likely to be the schoolroom than the dining-room. Frequently they are unable to provide the school work that ought to be given, and especially the mechanical training.

Another branch of work too generally neglected is the supervision of the children after leaving the institution. There were upwards of two thousand children sent out last year. There are few of these orphanages that can give any good account of those that have passed out. They are like lost pins. For the lack of proper supervision after discharge, our orphan asylums can not know what the results of their work may be. The State aid ceases at fourteen years of age, and statistics show that the children leave the institution very soon after arriving at that age. According to the reports received, only 533 children over fourteen years of age were left in the asylums. The child is pushed out before he is able to care for and support himself, the greater reason why supervision should extend beyond the walls of the institution.

State aid through boards of supervisors. The State also gives aid for orphans maintained through the boards of supervisors of the various counties of the State. During the year 1909 this amounted to $126,084.15. This money generally goes to widows who are trying to keep their families together. This should not be discouraged. The mother, if of good character, is the best person to care for her children, and the State or county should contribute all that is necessary to enable her to keep her family together, care for, and train them. We should never permit the demon poverty to tear the child from the arms of a good mother.

However good an institution may be, it can never take the place of a good home. Said Dr. Walter Lindley of Los Angeles, in a paper upon "Evils of Institutional Childhood" at the National Conference of Charities and Corrections at Portland, Oregon, in 1905, "Every child placed in a good home with a good family has at least five times the chance of becoming a valuable citizen that the child reared in an institution has." The foundation of our social system is the home, and the child should be trained to become one of the founders of a home. The child trained in an institution completely loses the home idea. If a child trained in an institution should marry and become the parent of children, quite likely he or she would turn again to the institution to raise their children. The best homemakers are raised in good homes.

Home-finding societies. It is a general rule that one marriage in ten is childless. Many of these persons would be good parents and maintain a good home, and feel keenly the disappointment of the childless home. When the homeless child is placed in one of these childless homes, all involved are benefited. The writer has seen many a childless couple made happy by the adoption of some unfortunate child, and that same child thus given God's greatest blessings—loving parents and a good home. The best provision for a dependent child is to place it in one of these homes. It is best for the child, best for the foster parents, and best for the State.

This fact being largely recognized, societies have been organized to find homes and place children into them. This plan has been developed by Charles Loring Brace of New York during the last fifty years. It commenced by removing the cast-off children of the New York city slums to the fertile fields of the West. Time has demonstrated its success. The environment of the home of growth has had more influence than heredity, or the environment of the home of birth. These children so placed have averaged with those to the manner born, and two at least have become governors of commonwealths. The early work of this society was carelessly done, but the later work has been on a far better basis. This system has been organized in twenty-eight of the states of the Union, and these various organizations are now federated into a national organization called The National Children's Home Society.

To restore the children of misfortune to their natural birthright of home and parental love is in itself a just act, yet the work is one that must be carefully and conscientiously done. There must be no mercenary spirit, no traffic in children. The child and the home should fit each other, and racial and religious lines should be observed as far as possible. The proposed home and the child must both be studied by experienced workers in this cause, before they are brought together, and thereafter frequent visits should be made to the child in the new home until it reaches its majority. To give a dependent and helpless child to whomsoever wants it, with no proper investigation of the person or family wanting it, and with no after supervision, is a heartless crime, and should be adequately punished by law.

Home-finding in this State. There are in this State at least four organizations or associations engaged in, or pretending to be engaged in, the work of finding homes and placing children. We have heard also of individuals soliciting contributions to child-placing work, which we have not been able to connect with any of these four.

The Children's Home Society of California is the oldest in point of time, being organized by Rev. J. D. Easter, January 14, 1892. It is a branch of the National Children's Home Society. For the past year it reports having received 159 children, and having placed into homes 125 children, and having under its supervision 349 children. It has eleven persons employed in the work, and expended the sum of $14,677 during the past year. The office of the State Board of Charities has received no complaints or adverse reports concerning the work of this society. We believe it is doing good and faithful work, in accordance with the principles laid down in this paper. This society is now working under the supervision of Mr. Herbert W. Lewis, and its offices are in Los Angeles.

The Children's Home-Finding Society of California was organized later by Rev. H. W. Brayton, who originally came from Iowa to work as a district superintendent for the previously described society. For some reason he withdrew from that society in 1895, and organized this new one, using the name of the other society with the addition of the word "Finding," thus confusing in the public mind the two societies. Both are incorporated under the names here given. This latter society reports having received 75 children during the past year, and having placed into homes 63 children, and having under its supervision 177 children. As to the work of this society, many complaints have come to our office and have also appeared in the daily press. These complaints, in brief, accuse this society of placing white children with Chinese families to be reared as Chinese; of placing one child at least with a woman who was a county charge, without any investigation; of failing to keep any records of the work, and of failing to give proper after-supervision to those children placed out. We do not know of the truth or falsity of these charges, but on behalf of the State Board of Charities the Secretary proposed to this society that a committee of said State Board investigate it, to the end that, if found to be true, the contributing public which furnishes its sole support might be apprised of the facts, and if found to be untrue the society might be relieved of the odium of unjust accusations, its work commended, and thus assisted in procuring funds for the future. The offer was rejected.

The third society we have but little data upon. It is much like the California species of flea, hard to put your finger upon. It was organized by Mr. Henderson, and has its headquarters somewhere in Oakland. Some time ago Mr. Henderson made a statement in court that he was doing nothing in child work, but since then reports have come in of solicitations being made in Mendocino County in aid of this society. We believe these collections are a graft, pure and simple, and not used in child-placing work. Whatever work has been done has not been done with regard to the rights and interests of the child. This Board would no doubt be glad to investigate Mr. Henderson's work and his society, if he would present himself and his data, and do him full justice, but until he gives this Board an opportunity to examine his work, it must pronounce against him.

The Children's Agency of the Associated Charities of San Francisco was organized to aid the institutions located in that city in finding homes and placing out children. It now also receives children committed to it by the juvenile court. At the close of the last year the agency had in its charge 410 children, of which 283 were committed to it by the court. Of the 410 under charge, 332 were being boarded in private families at the expense of the city. There were placed into free homes during the year 67 children, most of whom have been, or will be, adopted. We have received in regard to the work of this agency only the highest commendation.

These societies are all supported by public contributions. Agents travel over the State and solicit aid in the interest of this work. No State aid is given. There is no charity that appeals to the public like that of the helpless child, and the charitable public give liberally to this cause. This liberality on the part of the public is easy to capitalize and abuse, and has been taken advantage of by designing persons. All such frauds practiced in the sacred name of charity are not alone a graft upon the public, but are an injury to all those who are doing honest, faithful work. The State Board of Charities would be glad to investigate and report upon the work of all these societies, but it has no authority to compel them to submit to an investigation.

Maternity homes and baby farms. There has developed in this State another abuse of children that should take rank in its iniquity with the white slave traffic, and that is a traffic in babies. Under the designation of "Maternity Homes," "Lying-in Hospitals," "Baby-Homes," or "Baby-Farms," there is in existence a class of institutions that traffic in the illegitimate children of unmarried parents. Women who move many times in good society commit sin, and when compelled to face its consequences retire to the privacy of one of these places, where for an adequate consideration their shame is covered up and they return again to society with a statement that they have been taking the "rest cure."

And what becomes of the babe thus cruelly born into the world and abandoned by the natural parents at its very threshold? It is left with the maternity home to dispose of. It will be used, if possible, to furnish an income to the home where it is born and left, and is frequently used for purposes of blackmail.

It is impossible to get all the facts concerning these places and this class of cases, as all those involved do their best to cover up and conceal. Occasionally, however, a window is broken open and the light thrown in.

In a recent case in the superior court of Los Angeles we are given an opportunity to look into the inside of this abomination. A Mrs. Wilson was able to, and did, obtain and palm off on her husband and mother, four babies as her own. In the court hearing she admitted the fraud, and so did the physician and nurse employed. Two of these babies were obtained from such maternity homes, one was furnished by a physician, and one came from the county hospital, the mothers of all being unmarried women. A Mrs. Smith, who furnished one of the babies and procured the others, testified that she did not know the mother's name of any, and did not ask, although one of the babies was born in her house; that she had been a midwife for thirty years; that she had been in the habit of finding homes for babies, and had found homes for three hundred babies, and for people with millions of dollars, but that she had never got into such a mix-up before. This same Mrs. Wilson had one child born many years ago. Then she imposed upon her family and friends a pair of twins, later another pair of twins, then a few years ago triplets, for which she received a letter of commendation from President Roosevelt, and lastly the case of quadruplets in question. All of the eleven babies thus obtained and represented as her own were obtained from midwives, physicians, and maternity hospitals, and of the first seven of these children only three are living.

During the past year a woman in Oakland advertised at different times in the daily papers several babies for adoption. In one advertisement she boldly stated that they were for sale, and named the amount of charges she had against them—selling the baby to pay her charges for bringing it into the world. What an outrage! In one instance the charges were not stated. A woman called in answer to the advertisement and was told she could take the baby for $150.

The work of these women is being duplicated in hundreds of places in the cities of this State to-day. Any one who wishes to buy a baby can do so of these places, and no questions will be asked. Of those that can not be sold, the death rate is very large, and in few cases does the child survive the first year. We believe if the light were turned on these places the State would be startled at the conditions revealed.

The State of Indiana, by a law enacted in 1909, provided that all institutions caring for children must obtain annually a license to do so from the Board of State Charities. This law required on the part of the Board of State Charities an inspection of all such institutions. The first report of that board concerning this work is now at hand, and is mainly a catalogue of specific cases of abuse and cruelty. The statement that "greed is often greater than pity" was, says the report, frequently substantiated. We can not go into the details, but they prove that there existed last year in Indiana the same conditions which we believe exist to-day in California. It is probable, however, that many of these children in this State find their way into the orphan asylums.

In 1903 the legislature of this State enacted a law requiring persons conducting a "maternity hospital," "lying-in asylum," or place for the reception and care of children, to first obtain from the county board of health a license in writing so to do. The law further provides for the keeping of proper records, and authorizes the board of health to inspect the premises occupied for the purpose, and to revoke any license granted if "the place is being managed, conducted, or maintained without proper regard for the health, comfort, or morality of the inmates thereof." In San Francisco the officers of the Society for the Prevention of Cruelty to Children were made deputy health officers for the purposes of this act. This society was responsible for this law, and in this city has seen that it is enforced. But the result has been to drive the worst of these places to locations where the law is not enforced. In fact, we know of no place outside of San Francisco where any attention is being given to the matter. It must also be noted that this law does not sufficiently protect the disposition of children.

Numbers and comparison. The number of dependent children in this State on September 30, 1909, was approximately as follows:

In the orphan asylums	5,322
In care of boards of supervisors	2,423
In care of children's home-finding societies	427
In county almshouses	50
Total	8,222

This does not include the 600 children placed in free homes, but still under the supervision of the home-finding societies.

In comparison with other states, the number of dependent children in California is exceedingly great, and the cost of their care correspondingly large. On January 1, 1908, Indiana had 2,951 dependent children, Massachusetts 3,721, Michigan 2,622, Minnesota 2,279, Ohio 2,487, New York 33,329, and California, October 1, 1909, 8,222. Other state statistics are not available, nor is California for January 1, 1908. We are the least in population of any of these states, but we have more dependent children than any two combined,—with the exception of New York,—and our ratio is larger than the ratio of that state. Why is this? Perhaps we may find the explanation, partly at least, in some other figures. During the year 1907 Indiana placed out into free homes 685 children; Illinois, 1,502; Massachusetts, 1,258; Minnesota, 565; Ohio, 900; New York, 6,100; California, year 1909, 255.

We are putting our children into the institutions, while these other states are placing theirs out in homes. Even New York is coming to the front with more than 6,000 placed out in a single year.

In comparison with Indiana, where the orphan home prevails as in California, and receiving public aid or support, and whose population by the last census was to that of California in the ratio of five to three, there was expended during the year $207,077.02 in support of dependent children, while in California the cost to the State was $398,421.87. While we have about three fifths of the population of Indiana, we have two and a half times the number of dependent children and are expending almost twice as much for their support. Comparisons with other states might be made, but they would tell the same tale.

Reasons for child dependency. There is no doubt that the main reason for so large child dependency in this State is the ease with which our system permits parents to escape the duty of supporting their children. In almost no instances are the parents of illegitimate children made to contribute to their support. We relieve them from the consequences of their wrong, without even an injunction to "go and sin no more."

Other parents separate for trivial causes, or one of them dies, and the children are placed in an orphan asylum. Possibly the parent placing them there agrees to pay for their care and perhaps does so for a time. This parent may be perfectly able to pay but does not care to, and there is no one to compel him. The orphan asylum, in need of funds, can not afford to keep these children without some compensation, and the only other resource is to list them for State aid. They can not be placed out into homes, for this parent still has a claim upon them and may call for them at any time.

Frequently the parent wishes to remarry, and the new foster parent does not like the "encumbrances," which up to this time the parent has supported. The "encumbrances" are sent to the orphan asylum, that their support may be shifted upon the public and the way made clear for the new family, which will now be started.

The full extent of this abuse may be seen from the records of the State Board of Examiners. Last year claims for State aid to the orphan asylums were audited for only 637 full orphans and for 3,348 half orphans. The enforcement of the liability of the living parent would undoubtedly reduce the amount paid in State aid nearly one half.

Need for supervision. The children's institutions of this State are private corporations, and though receiving large support from the public treasury, are amenable to no State authority. The State has no means of knowing what kind of work is being done. In other states all such institutions are under the supervision of the State Board of Charities, and are inspected and make reports as other institutions under the supervision of the Board. An inspection by State authority would be a decided advantage to all those institutions doing good work. It would be a commendation that would aid them in obtaining funds from the charitable public, and increase their powers and efficiency. But those doing poor work would be compelled to improve or go out of existence. A bad institution is an injury to all the good ones and to the general cause.

Remedies. The remedy for preventing the shirking of parental duty is now easily within our grasp. The last legislature enacted an important law, taking an advanced step in the legal care and control of children by the State. This law provides for a "juvenile court" to have jurisdiction in all cases involving the custody and care of children. This law enumerates fifteen distinct classes of cases or conditions which shall constitute the child a dependent, and bring him within the jurisdiction of the court, and these cases are inclusive enough for all practical purposes. We need to take but one more step and provide that no State aid should be granted for the support of any child unless the juvenile court has first declared it to be a dependent. This will give the court an opportunity to cite the parent, and, in proper cases, to enforce the liability of parent to support the child. The judge should also be empowered in proper cases to sever the rights of the parent in the child, and place it under guardianship of the court's selection. Such a law, properly used, will compel many parents to support their children, and also permit of the placing out into homes of many that are now kept in the institutions.

All societies or persons engaged in placing children into homes should be compelled to make reports to the State Board of Charities, and obtain from said Board annually a license or permit to engage in such work. Also all persons or societies engaged in the conducting of maternity homes, lying-in hospitals, baby homes, or baby farms, should be compelled to make reports to said State Board of Charities, and obtain from said Board annually a permit to engage in said work. It should also be made a misdemeanor, with adequate punishment, for any person, society, or association to give away, or place out in any home other than that of immediate relatives, any child, unless such permit has been first obtained.

There should be organized in the office of the State Board of Charities a children's bureau, and every institution caring for the State's dependent children should be inspected annually, or oftener, and every child placed out in a home, not its natural one or that of immediate relatives, should be annually visited.

THE STATE INSTITUTIONS.

The twelve state institutions under the supervision of this Board have passed the last two years in a satisfactory manner. With one exception, there has been no serious trouble. All have prospered and increased in numbers.

The daily average number present during the sixtieth fiscal year was 10,888, an increase of 580 over the previous year. The cost of maintenance of these was $2,020,450.52, an increase of $90,651.69 over the cost of the previous year. The yearly per capita cost was decreased from $189.04 to $185.57, or $3.47.

The daily average number present during the sixty-first fiscal year was 11,436, an increase of 648 over the previous year. The cost of maintenance was $2,223,289.95, an increase of $202,839.43 over the previous year. The yearly per capita cost was increased from $185.57 to $195.29, or $9.72. This large increase was largely in the insane hospitals, which increased their yearly per capita $14.49. There was a slight decrease in the prisons and the Sonoma State Home, and a slight increase in the reform schools. The Home for Adult Blind increased its per capita from $243.24 to $270.99, or $27.75.

The total number of inmates in these state institutions during some time of the last two years was 18,346, and the total cost of maintenance during the two years was $4,253,740.47. In addition to this there was expended about $1,592,000 for extraordinary expenses and permanent improvements, making a grand total of about $5,845,740.

In our estimates following, for appropriations for support for the next two years, we have in general made the per capita cost for the last fiscal year the basis of our calculations. In some cases we have considered the per capita too high and in others too low. We have not, however, taken into consideration an increase in cost of living. Whether there is to be such an increase, or what it may be, is too uncertain for us to consider.

THE STATE PRISONS.

BOARD OF PRISON DIRECTORS.

Tirey L. Ford, *President*	San Francisco
Charles E. Clinch	Grass Valley
Robert T. Devlin	Sacramento
Warren R. Porter	Watsonville
Charles Sonntag	San Francisco

THE STATE PRISON AT SAN QUENTIN.

John E. Hoyle, Warden.

Census. The number of prisoners in San Quentin Prison on June 30, 1910, was 1,893 men and 29 women, a total of 1,922. This is an increase over the number two years before of 223 men and a decrease of 3 women. The number on parole June 30, 1908, was 126 men and 4 women, total 130, and the number on parole June 30, 1910, was 218 men and 7 women, an increase of 92 men and 3 women, making a total number under control of the prison authorities of 2,111 men and 36 women. There were in addition 20 male prisoners being held at state insane hospitals. There were committed to this prison during the two years, 1,434 men and 18 women, a total of 1,452. The number committed during the previous biennial period was 1,226. There were dicharged during the past two years 817 men and 13 women, a total of 830, and there were paroled 304 men and 4 women, a total of 308, and there died in the prison 44 men and 3 women, a total of 47, making a total of discharged, paroled, and died of 1,185.

Expenditures. The expenditures during the past two years were as follows:

Salaries	$208,929 53
Support	427,689 09
Repairs and minor improvements	9,475 04
Total	$646,093 66

Cash receipts. The cash received and credited to the contingent fund amounted to $33,622.37.

New cell house. The legislature of 1905 appropriated $310,000 for the construction of new cells. It was found necessary to first remove a large hill located on the point between the old buildings and the bay. Over 300,000 cubic yards of earth and stone were removed and filled in the low tide flats to the west. The new cell house was located where the hill formerly stood. It is of reinforced concrete, 600 feet long, 60 feet wide, and contains 800 cells. The cells are of concrete with doors of round steel rods. Each cell has a wash basin and toilet, and is for one prisoner. The work of construction is now nearly completed and the plumbing is being put in and the finishing coat put on the building. If there are no delays, this building should be occupied this winter. The plan for this new cell house contemplates a wing on each end, extending to the north, a refectory building in the center, and a chapel extending toward the south from the center of the main building. The completion of this plan will make a modern prison of the best and most permanent construction. It will give us one of the best, instead of the worst prison in the country.

More cells necessary. In every report this Board has made, it has emphasized the overcrowded condition of this prison. There are now only 490 cells and 1,900 prisoners. The cells are crowded full and dormitories have been extemporized and are overflowing. The 800 new cells will relieve somewhat, but not remove the pressure. An appropriation should be made by this legislature to continue the new construction as fast as possible. The labor on the new building has been done by prisoners and the work is creditable, both as to quality and amount. Between 200 and 300 men have been engaged in this work, and this number should be continued. There is, in fact, no other employment for them at present, and the State needs the completion of these buildings. There is further an educative and healthful value in this work not found in the jute mill.

New houses. Two years ago an appropriation of $20,000 was made for the construction of cottages for guards and employees. Only two have so far been built, and others are much needed.

Repairs. The appropriation of $5,000 for repairs has not been used, upon the advice of the State Engineer.

The industries. At this prison, there have been worked at new construction between 200 and 300 men, and in the jute mill about 900 men. The remainder have been employed in the regular prison work. The work here is not hard. It is rather a question of keeping the men occupied than producing returns. The work done on the new cell house, however, is very commendable. We have commented elsewhere upon the unsatisfactory condition of the labor system in this prison.

Appropriation for support. The appropriation made for support two years ago was $430,500, and the expenditures for support durng the sixty-first fiscal year were $211,624.69, including the per diem and expenses of the prison directors paid out of the support fund. The annual per capita cost of support was $117.94. The average number of prisoners for the sixty-first fiscal year was 1,832, and the number in prison October 1, 1910, was 1891. We estimate the average number for the sixty-third fiscal year at 2,020 and for the sixty-fourth fiscal year at 2,120. On this basis we calculate the amount needed as follows:

Sixty-third fiscal year, 2,020 at $118	$238,360 00
Sixty-fourth fiscal year, 2,120 at $118	250,160 00
Total for the two years	$488,520 00

Heretofore an allowance of $15 a month for officers and $10 a month for guards has been allowed in lieu of board to those who live at their own homes. This will amount to about $15,000 for the two years. It would seem that this should be provided for in the appropriation for salaries. If this is done the above appropriation should be reduced to $473,520.

Appropriation for salaries. The expenditures for the current year will be about $106,000. With an increase of prisoners there must be an increase of guards, 4 to each 100 prisoners, requiring about $5,000, to which should also be added $15,000 paid in lieu of board, deducted from support. This would require $232,000.

THE STATE PRISON AT FOLSOM.

Post Office, Represa.

WM. H. REILLY, Warden.

Census. The number of prisoners in Folsom prison on June 30, 1910, was 1,016, and the number June 30, 1908, was 1,009, an increase of 7. The number on parole June 30, 1908, was 57, and the number on parole June 30, 1910, was 113, an increase of 56, making a total under control of the prison authorities of 1,129. There were in addition 11 at state insane hospitals. There were committed to this prison during the two years 602. The number committed during the previous biennial period was 539. There were discharged during the two years 427, and there were paroled 140, and there died in the prison 17, making a total of discharged, paroled, and died of 584.

Expenditures. The expenditures during the past two years were as follows:

Salaries	$151,473 89
Support	205,299 61
Repairs and minor improvements	7,242 83
Extraordinary expenditures	8,411 80
Total	$372,428 13

Cash receipts. The cash receipts from all sources for the two years were $57,213.38. Of this amount $14,372.87 was placed to the credit of the Rock Crusher Revolving Fund, and the remainder, $42,840.51, to the credit of the Folsom Prison Fund. The net cost of the prison is, therefore, $329,587.62.

Prison wall. The legislature of 1905 appropriated $168,000 for a wall and extension of cell house. The wall is now completed along the south side, except the coping on the top, the entrance gate being included in this work. The east wall is about 25 per cent completed, and nothing has been done on the west side.

Hospital for insane criminals. This building, although under the management of members of the Commission in Lunacy, is upon the prison grounds. Appropriations have been made from time to time totaling $79,000. The work of construction has been going on for about four years. The walls for basement and first floor are now up, and work is progressing on the second story. The material is granite, cut and dressed in the prison quarry. The labor is being done by prisoners. The prison is paid for this labor from the appropriation. The quarry sales for the last two years amounted to $12,257.76, most of which was for this building.

New cell house. Nothing has yet been done on the actual construction of the extension to the cell house. The ground for the site is being cleared, which necessitates the quarrying and removing of a large body of granite. Considerable granite has been prepared, ready for laying. At present the prisoners are well employed in the construction of the prison wall and insane asylum. This cell house, however, is badly needed, as the prison is overcrowded. There are but 312 cells and more than 1,000 prisoners.

Additional houses for officers. The last legislature appropriated $3,500 to build more houses for the use of prison officers. Three houses have been built by the prison, and there is about $1,300 remaining of this appropriation, with which it is expected to build two more houses.

Warden's residence. The appropriation made two years ago for constructing a residence for the warden has not been used. It is the intention to build this with prison labor, and prisoners have been fully employed on work under construction. This appropriation should be continued.

Industries. The prisoners are mainly employed in the quarrying and dressing of granite, and laying it into buildings or walls. The rock crusher plant has not been a financial success during the past two years. The profit has been only $148.57. This is small remuneration for the labor of between 80 and 90 men for two years. From the time the rock crusher was started, June 10, 1896, to July 1, 1910, the profits have been $44,430.51.

The plant is now old and out of date and can not compete with new plants, but the quantity of trap rock available at the prison for this purpose is so nearly exhausted that it will not pay to install new machinery.

The statement in our report two years ago in regard to the earnings of this prison was an error, made through a misunderstanding of the clerk at the prison who furnished the same. What was given was the earnings of the rock crusher plant from the commencement of its operation, and not for the two years, as called for.

Appropriation for support. The appropriation made for support two years ago was $196,000, and the expenditures for support during the sixty-first fiscal year were $104,115.51. The annual per capita cost of support was $102.88. The average number of prisoners for the sixty-first fiscal year was 1,012, and the number of prisoners on October 1, 1910, was 1,003. We estimate the average number for the sixty-third fiscal year at 1,020 and for the sixty-fourth fiscal year at 1,030. On this basis we calculate the amount needed for support as follows:

Sixty-third fiscal year, 1,020 prisoners at $103	$105,060 00
Sixty-fourth fiscal year, 1,030 prisoners at $103	106,090 00
Total for two years	$211,150 00

Appropriation for salaries. The expenditures for salaries last year were $74,877.55. We know of no reason for an increase over the appropriation made two years ago of $160,800.

PRESTON SCHOOL OF INDUSTRY.

Station, Ione. Post Office, Waterman.

BOARD OF TRUSTEES.

E. C. VOORHIES, *President* — Sutter Creek
C. A. SWISLER — Placerville
REV. J. P. MCQUAIDE — San Francisco

CHARLES H. DUNTON, Superintendent.

Census. The number of pupils in the school June 30, 1910, was 383, and in addition there were 207 on parole, making a total of 590 under the control of the school. The increase in the number actually present during the two years is 60, and in the number under control of the school, 224. There have been committed to the school during the two years 363, and there have been discharged 51, and paroled 244.

Expenditures. The expenditures for the two years have been as follows:

Salaries	$94,688 75
Support	119,358 77
Ordinary repairs	12,446 11
Permanent improvements	13,277 69
Total	$239,771 32

The daily per capita cost of maintenance was 77.1 cents for the sixtieth fiscal year, and 87 cents for the sixty-first fiscal year.

Cash receipts. The cash received and placed to the credit of the contingent fund was $3,187.03.

Buildings. The last legislature appropriated $20,000 for a refectory building. This is now nearing completion. It is built of brick made by the boys on the premises, and the work of construction has all been done by the boys, under the guidance of their instructors.

Another appropriation of $25,000 was made for a heating and power station. This is now under construction. The brick have been burned, and the work of construction will be done by the boys. Two cottages were also authorized, and one has been commenced and will be built in a similar manner.

The appropriation for completing and furnishing the assembly hall and gymnasium has not been used. The basement of this building, which is to be used as a gymnasium, is the temporary dining-room and kitchen, and can not be vacated until the refectory building is completed. When vacated, this appropriation will be used.

Reservoir and pipe line. The water problem has always been a source of trouble here. There is a good water power system, which has been sufficient for all needs, but this water is conveyed through 2 miles of pipes and 8 miles of ditch. This water, on account of sediment, is not suitable for domestic use, and a new reservoir, with a pipe line 20,000 feet in length, has been built. The appropriation of $6,000 made for this purpose has not been sufficient, and a further appropriation will be necessary. It will also be necessary to install a filter to make this water fit for domestic use. These various reservoirs, ditches, and pipe lines must be maintained, and a special appropriation for this purpose, estimated at $5,000, should be made.

Health and sanitation. The general health has been good. There have been no deaths, but a run of measles put a large number in the hospital. A temporary hospital had to be provided. The present hospital consists of a few small rooms on the upper floor of the main building. It is both inadequate and inconvenient. At present, a boy suffering with an infectious disease is confined in a punishment cell, because no better place can be found. There are a large number of cases of smallpox in Ione, and the disease is likely to get a foothold in the school at any time. If so, there will be no facilities for handling the cases.

Hospital needed. A separate hospital building should be provided. It can be built of brick made on the premises, the work all being done by the boys.

The schools. The school work last year was not satisfactory. From May until November, 1909, there was no school work. This year only the usual summer vacation has been taken. There are now four day and two night schools. A man principal of schools has been employed, and the school work is in much better condition. More teachers, however, are needed, but can not be employed because there are no schoolrooms available. The reason for night schools is the lack of room for handling all in the daytime. A new eight-room school building is very much needed. The schools are also in need of supplies.

Industrial training. The best industrial training at Preston is in the building trades. All the work of construction and repair, and the making of much new furniture, is being done by the boys in the various trades, under direction of their instructors. Last winter 225 good iron beds, beautifully enameled, were made. We can not speak too highly of the quality and quantity of work done by the boys in their trades. The printing office does good work, but needs more equipment and modern machinery. Every department of farm work is carried on. The farm produces their butter, milk, eggs, poultry, meat, and vegetables. The farm, however, is poorly equipped. There is need of more horses, tools, and machinery. For this purpose a special appropriation should be made.

There are at the school about twenty negroes. The number of occupations open to them is limited, and the school has not facilities for training all to be cooks and waiters. The superintendent believes the barber's trade offers a good field for employment, and thinks that the installation of a barber shop for this purpose is desirable. We believe an appropriation for this purpose will be money well expended.

There is a good band at the school, and it promotes a good spirit and discipline. It should be kept efficient. It can not furnish good music without good instruments, and instruments are now needed.

Parole officer. No special appropriation has ever been made for the support of a parole officer for this school. A very efficient woman has been employed and paid out of the regular appropriations. There are now on parole 207 boys, who must be looked after, and about 100 a year for whom places must be found. This work is now too great for one person, and to insure its being properly done, we believe a special appropriation should be made for salaries and expenses of parole officers. This amount should not be less than $6,000.

Repairs. The main building has been in use since 1894. The plumbing is now badly in need of repairs, and there are many other repairs that should be made. Repairs are needed on some of the cottages also. Bedding, furniture, and household equipment are also needed.

Change of Superintendents. In July, 1909, this Board, at the request of the Secretary and through a committee appointed for the purpose, investigated the conditions at this school. The committee found that proper discipline was not being maintained and that excessive punishments were being inflicted, and reported its findings to this Board. It was the conclusion of this Board that the superintendent then in control of the school would be unable to correct the conditions found there, whereupon the Board directed that a report of the matter be made to the Governor and the Board of Trustees of the school. The findings were substantially admitted by the superintendent. His resignation was then demanded by the Board of Trustees, and Mr. C. H. Dunton was elected superintendent. We believe that this failure in discipline resulted largely from a failure to observe the state laws and rules of the Board, governing the school. Boys were found in the school who were past 21 years of age; others who were held beyond the terms for which they were committed, and still others who had, by their good conduct, earned the requisite number of credits to entitle them to a parole. The total of all these amounted to about 100. The granting of discharges and paroles to boys who were entitled thereto has materially reduced the population of the school, and it is now, November 1, 1910, 45 less than it was one year ago.

Our Secretary has visited the school on several occasions since the change of superintendents, and reports that he has mingled freely with officers and boys and finds that both spirit and discipline are good. There seems to be a hearty coöperation between the officers and the superintendent.

Appropriation for support. The amount appropriated by the last legislature for support was $133,000. The amount expended for the sixty-first fiscal year has been $65,765.27, including the expenses of trustees. The yearly per capita cost of support was $167.36. For the sixtieth fiscal year it was only $148.46. We place it at $165. The average number of pupils last year was 393, and the number October 1st was 378. We estimate the number for the sixty-third fiscal year at 410, and for the sixty-fourth fiscal year at 420. On this basis, we calculate the amount required as follows:

Sixty-third fiscal year, 410 pupils at $165	$67,650 00
Sixty-fourth fiscal year, 420 pupils at $165	69,300 00
Total for the two years	$136,950 00

Appropriation for salaries. The present salary roll calls for an annual appropriation of $54,840. There is needed for next year in addition:

1 literary teacher at $60	$720 00
1 agricultural teacher at $75	900 00
1 electrical teacher at $75	900 00
1 barber at $60	720 00
Total	$58,080 00
Total for the two years	$116,160 00

WHITTIER STATE SCHOOL.

Whittier, Cal.

BOARD OF TRUSTEES.

DR. WALTER LINDLEY, *President* ---------- Los Angeles
JAMES CLARK ---------- Pasadena
T. E. NEWLIN ---------- Los Angeles

J. P. GREELEY, Superintendent.

Census. The number of pupils in the school on June 30, 1910, was 307 boys and 80 girls, total 387, and in addition there were on parole 226, making in all 613 under the supervision of the school. The increase during the past two years of those actually present is 31 boys and 25 girls, and in the number under the control of the school 64. There have been committed to the school during the two years 272, and there have been paroled 238, and discharged 73.

Expenditures. The expenditures for the two years were as follows:

Salaries	$103,556 48
Support	132,848 56
Ordinary repairs	7,430 05
Extraordinary expenses	38,771 15
Total	$282,606 24

The daily per capita cost of maintenance was 94.5 cents for the sixtieth fiscal year, and 95.6 for the sixty-first fiscal year. The extraordinary expenditures include the following:

40 acres of land	$30,000 00
Standard Linotype	3,500 00
Permanent improvements	5,271 15

Cash receipts. The cash received and credited to the contingent fund amounted to $15,039.55.

The Farm. A special appropriation of $30,000 was made by the last legislature to purchase a tract of 40 acres of land adjoining the present holdings. This purchase has been completed and the 40 acres, in walnuts and alfalfa, has been added, making the total land now in the school farm 200 acres. This land is all utilized and is in alfalfa, vegetables, fruits, and nuts. Oranges, lemons, and walnuts constitute the principal market crops. The amount received for farm products sold during the two years was $15,332.03.

Buildings. The appropriation made by the last legislature for repairs on the main building has been used in finishing up additional rooms in the attic, and in general repairs. This building is still in bad condition. The plastering is off in places and plumbing is bad. An additional appropriation will be needed to put this building in proper condition.

The cottage provided for by the last legislature is now under construction. When completed, this will accommodate a family of 30 boys. An appropriation was also made by the last legislature for a manual training building. Nothing has been done toward the construction of this building, though it is very much needed. The appropriation should be continued.

Health and sanitation. There have been during the past year five cases of typhoid fever. The cause was traced to some old decayed water supply pipes, which passed through a private yard where there had been typhoid fever. An unusual number of pupils of both sexes have been received suffering with venereal diseases, and during about eight months of last year nine girls were received in pregnant condition. This institution was established as a school, and it was not its purpose, nor has it the facilities, to perform the functions of a maternity home. Such girls have been either returned or sent to other institutions. Juvenile courts were also notified by the superintendent that he could not receive such girls. The State Board of Charities and Corrections approved this action. There were but two deaths at the school during the two years since last report.

Hospital needed. There is urgent need for a separate hospital building. At present the only hospital facilities for boys are in the attic of the main building, which is really the fifth floor. It is inconvenient, inadequate, and unsatisfactory. All pupils, on arrival, should be isolated and detained for a short time for observation and examination. Such a course would not only prevent the introduction of contagious diseases, of which at present there is constant danger, but would permit of the boy being put into good physical condition before being put to work in the school, and also permit of a study of his moral delinquencies and mental condition, so that he could be the better classified in the school system.

Schools. There has been maintained during the past two years four schools for boys and one for girls. With the exception of about 50 of the small boys, who are in school the whole day, the pupils are in school a half day each, and at work, or at their trade, the other half day. One half the inmates are in school in the forenoon and the other half in the afternoon. Thus, each teacher has more than forty pupils at each session, or over eighty different pupils for the day. The teachers are all women. This number is considered too great in a school of normal pupils, but in a school of this character, where the pupils are all abnormal, many being backward or mentally defective, the number is much too great. Considering the increase in numbers for the next two years, there should be at least two more teachers in the boys' department and one more in the girls' department.

Industrial training. The industrial training has been limited. No new buildings have been built, and therefore no opportunity given for instruction in the building trades, except in general repair work. The agricultural departments are furnishing better opportunities. In general farming, live stock, dairying, horticulture, and floriculture, good instruction is given. The printing office has been equipped with a new standard linotype machine and a cylinder press. It is now in position to do the very best work. Some of the work turned out would be a credit to any printing office.

The industrial training of the girls is mostly in domestic work. Few of them are prepared upon leaving to earn their way at anything but housework.

Parole agents. One of the most important parts of the work of a reformatory of any description is the proper supervision of those who pass out. To parole boys or girls to drift whither they will, is to very largely undo the work of the school. They need at this time an occupation and help and advice. No pupil should leave the school except on parole, and then only when a suitable place has been found where he can earn his living and be comparatively free from temptations. He should thereafter be visited frequently and assisted until he has become securely established. The school should employ sufficient agents to do this work well. At present one man is employed at this school for this purpose. During the two years 238 pupils were paroled, for whom he should secure places and whom he should visit and look after. There were 226 on parole June 30th last. It is impossible for one man to do this work properly. At least another agent is needed, and because many girls are to be supervised, this agent should be a woman.

Housing. The dormitories are now overcrowded. The plan of putting over 60 boys in one large dormitory is a bad one to start with, but when these dormitories become overcrowded, as they are at present, it makes the condition serious. The ideal method, and the one now practiced in the best institutions of the country, is to put from 20 to 25 pupils into a cottage home and under the care of a man and his wife. The cottage now under construction will hardly relieve the present congestion. To meet the future increase, another cottage must be constructed.

Dairy barn. This institution has never had a dairy barn. It possesses one of the best herds of Holsteins in the State, and an old open shed furnishes the only accommodations at present. A good dairy barn is needed.

Miscellaneous. Other needs are new furniture for the main building, another 125,000 horse-power boiler, new electric light plant, new tools and machinery for trades, and some new equipment for the kitchen.

Appropriation for support. The appropriation made by the last legislature for support was $115,000. The amount expended for the sixty-first fiscal years has been $69,057.28, including expenses of trustees. The yearly per capita cost of support was $190.24, which is much the highest of all our state institutions. We believe it should not exceed $165. The average number of pupils last year was 363 and there were present on October 1, 1910, 358. We estimate the number for the sixty-third fiscal year at 390 and for the sixty-fourth fiscal year at 400. On this basis, we calculate the amount needed for support as follows:

Sixty-third fiscal year, 390 pupils at $165	$64,350 00
Sixty-fourth fiscal year, 400 pupils at $165	66,000 00
Total for two years	$130,350 00

Appropriation for salaries. The appropriation two years ago for this purpose was $105,000. The salary expenditure last year was $52,196.05. There are needed next year:

3 literary teachers at $840	$2,520 00
1 music teacher	1,040 00
1 matron, cottage B, girls' department	900 00
1 night watchman	600 00
Man and wife to manage new cottage	1,200 00
1 woman parole officer	1,500 00
Total	$59,956 05
Total salaries for two years	$119,912 10

STOCKTON STATE HOSPITAL.

BOARD OF MANAGERS.

C. D. FONTANA, *President*	Copperopolis
N. F. PICKLE, *Vice-President*	Sonora
J. F. DIETRICH	Stockton
J. McLEOD	Stockton
J. C. THOMPSON	Stockton

FRED P. CLARK, M.D., Medical Superintendent.

Census. The number of patients in the hospital on June 30, 1910, was 1,291 men and 716 women, a total of 2,007. There were also out on parole 18 men and 43 women, making a total of 1,309 men and 759 women, and a grand total of 2,068 under control. The increase during the past two years has been 39 men and 62 women, total 101. There have been committed to the hospital during the two years 695 men and 330 women, a total of 1,025, and there have been discharged 339 men and 146 women, a total of 485, and there have died 315 men and 130 women, a total of 445, making a total of discharges and deaths of 830.

Expenditures. The expenditures for the two years have been as follows:

Salaries	$265,428 28
Support	317,967 26
Ordinary repairs	36,849 56
Total	$620,245 10

The daily per capita cost of maintenance for the sixtieth fiscal year was 42 cents, and for the sixty-first fiscal year, 46 cents.

Farm products. The value of the products grown on the farm was estimated at $40,570.55, and the cost of producing the same at $21,795.08, and the profit from the farm at $18,775.47.

Cash receipts. The cash received and credited to the contingent fund was $51,547.79.

Buildings. The receiving and treatment building, for which an appropriation of $55,000 was made in 1907, is now completed and in operation. It is equiped with apparatus for hydrotherapy and electrotherapy, and is complete for the treatment of the insane. The building has accommodations for 30 men and 30 women, and rooms for the attendants of this building. It was built within the appropriation, with the exception of about $1,000 for plumbing. An appropriation of $6,000 was made for equipment by the last legislature.

A new cottage for men is being constructed out on the farm. The appropriation for this was $35,000, and it will accommodate 60.

A new laundry building has been constructed in connection with the female department, and now only the one laundry is operated for all the departments.

Other improvements. A new water tower has been erected at a cost of about $25,000, and a telephone system installed at a cost of $3,000. These improvements have generally been made within the special appropriations.

New buildings needed. A cottage for women is needed on the farm. The general dining-room for women is a building one story in height. If the foundation is found sufficient, one or two stories could be added to this building, making another ward for women and a much needed sewing room.

Water system. A water system is needed for the buildings at the farm. The cottage now being built will need a water supply, and such a system should be constructed, with due consideration for the future needs at this farm. In fact, all improvements at the farm should be made with the idea of ultimate removal there of the whole hospital.

Fire protection and heating. The main buildings at this hospital are old and were not properly equipped. There is no adequate fire protection or fire escapes. Two years ago a steam heating system was installed in the oldest of the three old ward buildings. The other two are still heated by stoves. These should be displaced by a modern heating system.

Electric lights. The buildings have now been wired for electric lights, and electricity for that purpose is bought of the power company. An independent plant is desirable.

Land. The farm purchased a few years ago consists of but 520 acres. The land was of the best and cost the State $55,000. The profit is now nearly one fifth of that sum annually. This farm is too small. This year the Board of Managers have rented 100 acres adjoining, paying a rental of $1,200. Adjoining the State Farm there is a tract of 488 acres as good land as the present holdings, which can be bought for $61,000. The State needs this land; it is rightly located and of good quality, and the price will never be any lower, but more likely before another two years passes, much higher. The other land is paying for itself in seven years' time, and this will no doubt do the same.

Appropriation for support. For the sixty-first and sixty-second fiscal years the appropriation for support was $315,000. The amount expended for the sixty-first fiscal year was $167,578.19, including the expenses and per diem of the Board of Managers, which amounts are paid out of the appropriation for support, and not from the salary appropriation, where it is tabulated. The yearly per capita has been $85.77. The average number of patients was 1,956, and the number in the hospital October 1, 1910, was 2,009. We estimate the average number for the sixty-third fiscal year at 2,040, and for the sixty-fourth fiscal year at 2,100. On this basis we calculate the amount needed for support as follows:

Sixty-third fiscal year, 2,050 patients at $85	$174,250 00
Sixty-fourth fiscal year, 2,100 patients at $85	178,500 00
Total for the two years	$352,750 00

Appropriation for salaries. The amount paid in salaries last year was $137,823.37. That amount will be increased considerably this year on account of opening the new receiving and treatment building and additional employees on farm. We estimate the amount needed for the next biennial period at $305,000.

NAPA STATE HOSPITAL.

Napa.

BOARD OF MANAGERS.

Emmett Phillips, *President*	Sacramento
H. M. Meacham, *Vice-President*	Napa
Richard Belcher	Marysville
Thomas B. Dozier	San Francisco
J. H. Steves	St. Helena

Elmer E. Stone, M.D., Medical Superintendent.

Census. The number of patients on June 30, 1910, was 1,069 men and 812 women, total 1,881. There were also out on parole 26 men and 67 women, making a total of 1,095 men and 879 women, and a grand total of 1,974, under control of the hospital. The increase during the past two years of those actually present has been 51 men and 58 women, total 109, and of those under control a total of 136. There have been committed to the hospital during the two years 525 men and 357 women, total 882, and there have been discharged 293, and have died 421.

Expenditures. The expenditures for the two years were as follows:

Salaries	$257,704 43
Support	275,684 53
Ordinary repairs	31,383 25
Total	$564,772 21

The daily per capita cost of maintenance was 40.7 cents for the sixtieth fiscal year, and 43.9 cents for the sixty-first fiscal year.

Farm products. The estimated value of the products grown on the farm is $81,667.76, and the cost of producing the same was $36,874.51, leaving a profit thereon of $44,793.25.

Cash receipts. The cash received and credited to the contingent fund amounted to $90,479.87.

Buildings. Four years ago $35,000 was appropriated for a cottage. Two years ago, $35,000 more was added, and the $70,000 used for the construction of a receiving and treatment building. The appropriation is now exhausted and the building is not completed. The central part and the west wing are ready for occupancy, but the east wing is far from complete. The furniture and fixtures were originally intended to come out of the appropriation, but they have been paid for by the Board of Managers from their contingent fund. They must now accept this building in its incomplete state and finish it, or let it lie unfinished. The labor upon this building has been mostly done by patients. The building is of reinforced concrete. The estimated cost to complete it is $12,000.

The $12,000 appropriated for cottages for men has been expended in adding two more to the Phillips group, now consisting of four buildings for dormitories, with a central building for sitting-room, dining-room, and serving-room. This group is one story high, built of brick, and accommodates 200 patients. The buildings are well built and the arrangement is very satisfactory. The buildings have no guards or locks on the windows, and patients are permitted to come and go at will.

It is planned to construct another group, on a somewhat different plan, for women. This is to consist of a central building for a dining-room and sitting-room to accommodate 200 women, and 17 smaller buildings conveniently grouped around. Each of these cottages will accommodate 10 patients. The work of constructing this group has just been commenced.

The best opinion of the present day upon the care of the insane is in favor of the smaller cottage. These are the first buildings to be built in this State upon the plan of small cottages or houses. The so-called cottages of the other hospitals accommodate from 20 patients up. The Board of Managers have here an opportunity for a model group, which, from the fact that it more nearly approaches home life, should be productive of the best results.

The kitchen has been rebuilt and is now one of the best in the State. A notable addition to this kitchen is an oven for roasting meats, sufficiently large to serve an institution of this population.

Water system. A new distributing reservoir of concrete, having a capacity of 600,000 gallons, has been completed. This reservoir is 20 feet higher than the highest floor to be reached, and gives sufficient pressure to carry water to any part of the buildings. There is now an adequate and satisfactory water supply, probably for the first time.

New buildings needed. The present assembly hall is much too small for the present population. It is also on the second floor and not easily accessible to the new cottages, whose population will more generally use the assembly hall. The safety and convenience of patients demand a separate assembly hall with ground floor entrances and exits. These considerations, coupled with the fact that the present hall is too small, demand a new one, which should be large enough to accommodate 1,500 persons.

About 250 patients are now sleeping on the floors. These should be provided for, as well as 100 new ones. Buildings under construction will take up those on the floor, leaving the natural increase to be provided for.

Repairs. The contingent fund has been used to complete buildings and for maintenance, consequently general repairs have been neglected. An appropriation probably will be needed for this purpose.

There is immediate need for two new boilers of at least 125,000 horse-power capacity each. The old boilers are about worn out and the inspector has limited the pressure of two of them to 40 pounds. There will be insufficient heat in the wards this winter unless new boilers are installed.

Ice and cold storage plant. The present plant was built many years ago to supply a population of 1,000. Now we have nearly twice that number. A new plant is very much needed.

Appropriation for support. For the sixty-first and sixty-second fiscal years the appropriation for support was $294,000. This has proved insufficient and the contingent fund is being drawn upon to meet the deficiency. This Board at the time recommended an appropriation of $310,585. Our estimate for the sixty-first fiscal year was $156,325, and the actual cost, including per diem of managers paid out of support fund, was $146,629, and this in the face of a necessity to economize. That rigid economy has been practiced is shown by the reduction in the annual per capita cost of support from $82.82 for the fifty-ninth fiscal year to $79.25 for the sixty-first fiscal year. The cost at the Stockton hospital for the same year was $85.67, and we do not think that at Napa it should be any lower than $85.

The average number of patients for the sixty-first fiscal year was 1,850 and there were present October 1, 1910, a total of 1,900. We estimate the average number for the sixty-second fiscal year at 1,910, and for the sixty-third fiscal year at 1,950, and for the sixty-fourth at 1,990. On this basis we calculate the amount needed for support as follows:

Sixty-third fiscal year, 1,950 patients at $85	$165,750 00
Sixty-fourth fiscal year, 1,990 patients at $85	169,150 00
Total for the two years	$334,900 00

Appropriation for salaries. The amount expended for salaries last year was $131,608.64. The amount for the current year will be about $140,000. Additional attendants and the operating of the treatment building will increase this about $7,000 a year. The amount required for salaries, therefore, will be $294,000.

AGNEWS STATE HOSPITAL.

Station and Post Office, Agnew.

BOARD OF MANAGERS.

T. S. MONTGOMERY, *President*	San Jose
F. H. BANGS, M.D., *Vice-President*	San Jose
DAVID RUTHERFORD	Oakland
EDWARD WHITE	Watsonville
HORACE WILSON	San Francisco

LEONARD STOCKING, M.D., Medical Superintendent.

Census. The number of patients June 30, 1910, was 408 men and 292 women, total 700. There were also out on parole 27 men and 33 women, making a total of 435 men and 325 women, and a grand total of 760 under control of the hospital. There has been a decrease of 11 men and 1 woman. There were committed during the two years 53 men and 56 women, a total of 109, and there have been discharged 30 men and 18 women, a total of 48, and there have died 42 men and 28 women, a total of 70, making a total of discharges and deaths of 118.

Expenditures. The expenditures for the past two years have been as follows:

Salaries	$155,298 35
Support	164,122 86
Ordinary repairs	2,466 10
Total	$321,887 31

The daily per capita cost of maintenance for the sixtieth fiscal year was 61.1 cents and for the sixty-first fiscal year it was 64.9 cents.

Farm products. The value of the products grown on the farm is estimated at $33,989.05 and the cost of producing the same at $29,017.11, and the profit from the farm at $4,972.94.

Cash receipts. The amount received and placed to the credit of the contingent fund has been $32,081.09.

New buildings. The work of rebuilding has progressed very slowly, and the new buildings are not yet occupied. It is hoped, however, to move into them before the first of the year. The new hospital group consists of power house and laundry buildings, rebuilt and newly equipped, four new service buildings, kitchen and cold storage plant, commissary, bakery, and dining building. There is a central receiving building, in which is located the offices of physicians, apparatus for treatment, and operating room, and auxiliary rooms. On either side of this are located buildings for the occupation of patients. These buildings have been built in pairs, one for male and one for female patients, ten in all, with a combined capacity of 826. There is also an administration building and superintendent's residence. These eighteen buildings appear to be completed, except for a very few finishing touches.

The present delay is on account of the conduit or tunnel connecting the buildings, and in which the steam heating pipes are located. This is now believed to be nearly ready. The original plan contemplates seven more buildings—an assembly hall, two cottages for convalescent patients with a capacity of 30 each, and two for working patients with a capacity of 100 each, and two cottages for nurses.

There has been appropriated for this reconstruction and furnishing the sum of $1,140,000, and this appropriation is exhausted. Some of the support fund has been used for new furnishings, in addition. Of the above group of buildings not yet commenced the assembly hall is quite necessary, and also the building for male workers and the one for female convalescents. There is always a larger number of men than women, and at present as much room has been made for women as for men. The two last buildings mentioned will increase the capacity to 513 men and 443 women, a total of 956. Even then the male side will be first crowded, but the convalescent building for women is very much needed, and a surplus of men can be cared for over the laundry. We think the three buildings above mentioned should be provided for, and for any beyond those they can wait two years. The two nurses' cottages are, however, very desirable and should be built at an early date.

Appropriation for support. For the sixty-first and sixty-second fiscal years the appropriation for support was $203,000. The amount expended for the sixty-first fiscal year has been $85,118.75. The yearly per capital was $122.65. This is higher than necessary for support, as some of this expense is for furniture and permanent supplies. We believe a per capita of $110 would be sufficient. The large appropriation of two years ago was made under the belief that the new buildings would be ready for occupancy in 1909 and that there would then be a large increase in commitments. The buildings, however, are not yet ready, and only a limited number of new patients have been received. The average number of patients last year was 694. We estimate the number for the sixty-third fiscal year at 820, and for the sixty-fourth fiscal year at 920. On this basis we calculate the amount needed for support as follows:

Sixty-third fiscal year, 820 patients at $110	$90,200 00
Sixty-fourth fiscal year, 920 patinets at $110	101,200 00
Total for two years	$191,400 00

Appropriation for salaries. Before the end of the current year the new buildings will no doubt be occupied. Last year's expenditures for salaries will be no basis for the new situation. The salary roll, as made out by the superintendent, amounts to $216,000.

MENDOCINO STATE HOSPITAL.

Station, Ukiah. Post Office, Talmage.

BOARD OF MANAGERS.

W. A. Foster, *President*	Willits
George D. Clark	San Francisco
A. J. Fairbanks	Willits
A. Hochheimer	Willows
John L. McNab	Ukiah

E. W. King, M.D., Medical Superintendent.

Census. The number of patients present June 30, 1910, was 628 men and 273 women, a total of 901. There were also out on parole 9 men and 14 women, making a total of 637 men and 287 women, and a grand total of 924 under control of the hospital. The increase during the past two years has been 50 men and 27 women, a total of 77. There have been committed 411 men and 120 women, a total of 531, and there have been discharged 235 men and 64 women, a total of 299, and there have died 105 men and 34 women, a total of 139, making a total of discharges and deaths of 438.

Expenditures. The expenditures for the two years have been as follows:

Salaries	$134,369 08
Support	151,753 56
Ordinary repairs	9,991 21
Extraordinary expenses	62,848 07
Total	$358,961 92

The daily per capita cost of maintenance was 44.4 cents for the sixtieth fiscal year, and 50.5 cents for the sixty-first fiscal year.

Farm products. The value of the products grown on the farm is estimated at $42,157.20, and the cost of producing the same at $27,502.48, and the profit from the farm at $14,654.72.

Cash receipts. The amount of the contingent fund was $27,734.22.

Buildings. The legislature of 1907 appropriated $30,000 for the construction of a cottage for men, and the legislature of 1909 made a further appropriation of $12,500 for the completion of the building. This has proved to be insufficient, the total cost being about $45,000. The building is now occupied. It is a two-story cottage, without basement, and has a capacity of 70. This makes the cost per patient for housing $642.85. Four years ago a very satisfactory cottage for women was built for $35,000, which accommodates 120, the cost per patient being $291.66.

The last legislature appropriated $10,000 for rebuilding and enlarging the kitchen. The work has been completed, and the cost has exceeded the appropriation by about $1,000. A new concrete dairy barn has also been built. The appropriation for this was $5,000, and the cost has been about $6,500. These buildings have all been taken over by the Board of Managers in an incomplete state and completed from the contingent fund.

There has also been built from the contingent fund a bungalow for the first assistant physician, at a cost of $5,359.

New buildings needed. It will be necessary to provide for the regular increase in the number of patients. A building for working men on the ranch, to accommodate about 50, is desirable. Much of the ranch work is done by male patients, who now have to be taken back and forth. Such a building would be a great convenience to these workers, and provide a satisfactory way of providing for the increase. This building should not be of expensive construction.

New plumbing and repairs. The main building is about twenty years old and in need of repairs. A water pressure of about 125 pounds has been maintained, and the plumbing is about worn out. An appropriation will probably be needed for these purposes.

Water. The water system at this hospital has not been very expensive. It is not sufficient, however, to meet present requirements. A new reservoir is needed and can be provided at a moderate expense.

Appropriation for support. For the sixty-first and sixty-second fiscal years the appropriation for support was $205,000. The amount expended for the sixty-first fiscal year has been $84,735.64, including the expenses of the managers. The yearly per capita was $97.29. The average number of patients was 871, and the number in the hospital on October 1st last was 920. We estimate the average number for the sixty-third fiscal year at 975, and for the sixty-fourth fiscal year at 1,025. On this basis we estimate the appropriation for support as follows:

Sixty-third fiscal year, 975 patients at $97	$94,575 00
Sixty-fourth fiscal year, 1,025 patients at $97	99,425 00
Total for the two years	$194,000 00

Appropriation for salaries. The expenditures for salaries last year were $69,237.58. This year the amount will be about $73,500. The new methods of treatment are not being used now for want of capable attendants. These must be provided. More attendants are needed in other departments. We estimate the amount required as follows:

Sixty-third fiscal year	$77,500 00
Sixty-fourth fiscal year	82,500 00
Total for the two years	$160,000 00

SOUTHERN CALIFORNIA STATE HOSPITAL.

Patton.

BOARD OF MANAGERS.

E. P. Clarke, *President*	Riverside
H. McPhee	Santa Ana
A. B. Paddock	Rialto
Dr. F. M. Parker	Los Angeles
H. B. Wilson	San Bernardino

E. Scott Blair, M.D., Medical Superintendent.

Census. The number of patients on June 30, 1910, was 851 men and 521 women, a total of 1,272. There were also out on parole 12 men and 11 women, making a total of 863 men and 532 women, and a grand total of 1,395, under control of the hospital. The increase during the past two years of those actually present has been 192 men and 148 women, a total of 342. There have been committed to the hospital during the two years 643 men and 359 women, a total of 1,002, and there have been discharged 315 men and 163 women, a total of 478, and there have died 157 men and 78 women, a total of 235, making a total of discharges and deaths of 713.

Expenditures. The expenditures for the two years have been as follows:

Salaries	$175,282 53
Support	266,557 58
Ordinary repairs	23,497 83
Extraordinary expenses	206,156 17
Total	$671,494 11

The daily per capita cost of maintenance was 51 cents for the sixtieth fiscal year and 54 cents for the sixty-first fiscal year. The extraordinary expenses above named were mainly for the construction of new buildings and the furnishing of the same.

Farm products. The estimated value of the products grown on the farm is $70,333.93, and the cost of producing the same $37,534.77, leaving a profit of $32,799.16.

Cash receipts. The amount received and credited to the contingent fund was $77,873.75.

Buildings. Four years ago an appropriation of $43,000 was made for a building for receiving and treating patients. Two years ago this appropriation was exhausted and an additional $15,000 was appropriated to complete this building, or rather, group of buildings. The buildings are now completed and occupied, and accommodate 30 male and 30 female patients. They are equipped with the latest and best facilities for the treatment of insanity. Besides the central building there is a wing on each side, one for male and one for female patients.

The cost exceeded the appropriation by $3,891.22, which was paid from the contingent fund.

An appropriation of $13,750 was made by the last legislature for raising the roof over the congregate dining-room, and constructing wards above. This work is now completed and accommodates 88 male patients. The cost exceeded the appropriation by about $1,000, and was paid by the Board out of the contingent fund. The furnishing cost about $700 additional.

An appropriation of $40,000 was made for a building for female patients, and it has been completed. It is of concrete, two stories high, and accommodates 80 patients. This building was constructed and equipped within the appropriation.

A second cottage for women was provided for by an appropriation of $20,000. This building is now completed and occupied by 70 patients. The cost has reached $22,000, and the Board of Managers have paid the balance from the contingent fund. This cottage cost about one half as much as the preceding, holds only 10 patients less, and is more desirable.

An appropriation of $4,500 was made for a bungalow for the use of the first assistant physician. This has been completed at a cost of about $5,200. The Board was compelled to accept it unfinished and completed it from the contingent fund.

The laundry has also been enlarged and new equipment furnished. The cost of this is within the appropriation.

These new buildings had to be connected with the steam heating system and the telephone system, and provided with fly screens, and in some cases furnished with locks. The cost of this was above $5,000, which the Board was compelled to pay from the contingent fund.

New buildings needed. This hospital is to-day in the best condition we have ever seen it. It is not seriously overcrowded. There are no beds made up on the floor, but the ward dining-rooms are used mainly for sleeping-rooms, and the women are compelled to eat in the basement of the main building, a place not calculated to improve one's mental condition. The ward dining-rooms should be again used as soon as the congestion can be relieved. The use of the ward dining-room for a dormitory not only deprives the patients of a necessary convenience, but also increases the number of patients on a ward beyond what good management dictates. The largest male ward now contains 114 patients, and the largest female ward 87. The use of the dining-rooms for eating purposes would reduce the numbers on a ward, but even then they are too large.

We may expect another increase during the next two years of 300 patients, and this number should be provided for by this legislature.

The group of cottages, known as the McGonigle group, is very satisfactory. There is a separate building for the nurses and the buildings for the patients are one story and connected by covered passageways. Such a group can be well built for about $24,000 for construction and $5,000 for equipment, and will accommodate 120 patients, making a comparatively cheap plan and a very satisfactory one. Two such groups should be constructed. Another cottage similar to the one last constructed, and providing for 70 male pay patients, should also be built. This will cost, including equipment, about $25,000. These buildings will provide for about 310 new patients, and at the present rate of increase there will be an overcrowded condition again two years hence.

Nurses' cottages. Nurses and attendants who devote fourteen hours a day to the care of insane patients should not be compelled to sleep at night on the same wards with the patients. As soon as it is possible to do so, two cottages, one for male and one for female attendants, should be constructed.

Lighting plant. The hospital is now paying about $10,000 per annum for electric lights and gas. The State would undoubtedly save money by constructing a plant, which would also be more satisfactory.

Commissary. At present the steward is in quarters much too small. A new separate building for commissary stores and steward's offices is needed.

Appropriation for support. For the sixty-first and sixty-second fiscal years the appropriation for support was $266,000. This has proven inadequate on account of the large increase in the number of patients. We estimated the average number of patients for the sixty-first fiscal year at 1,180 and it has proved to be 1,297. We estimated the average number for the current fiscal year (sixty-second) at 1,240, and there were on October 1st 1,366, and the average for the year will reach 1,410. The actual cost of support for the sixty-first fiscal year was $149,715.26, including the per diem of the managers. This is considerable more than one half of the appropriation for the biennial period, and a deficiency appropriation may be necessary.

The increase of population at this hospital is phenomenal. During the sixtieth fiscal year the increase in the average number present was 127, and during the sixty-first fiscal year it was 174, a total increase in two years of 301. We now estimate the average number for the current year at 1,410, and for the sixty-third fiscal year at 1,550, and for the sixty-fourth fiscal year at 1,690. This allows an increase of 140 per year. The yearly per capita cost of support during the last year has increased, for which we do not know the reason. For the sixtieth fiscal year it was $106.61 and for the sixty-first fiscal year

$115.43. We consider $110 sufficiently high, and calculate the amount needed upon that basis, as follows:

Sixty-third fiscal year, 1,550 at $110	$170,500 00
Sixty-fourth fiscal year, 1,690 at $110	185,900 00
Total for the two years	$356,400 00

Appropriation for salaries. There was expended for salaries last year $90,893.63, and during the current year the amount will reach $100,000.

The following additional employees are needed:

18 attendants at $540 per annum	$9,720 00
1 gas and electric man	900 00
1 poultry man	720 00
1 night watchman	600 00
1 assistant in sewing room	560 00
Total	$112,500 00
Total for two years	$225,000 00

SONOMA STATE HOME.

Station and Post Office, Eldridge.

BOARD OF MANAGERS.

C. E. Haven, *President*	Santa Rosa
Rev. A. C. Bane	San Francisco
Joseph P. Berry	Santa Rosa
Rev. Walter Frear	Oakland
Rev. Wm. Lyons	Menlo Park

Wm. J. G. Dawson, M.D., Medical Superintendent.

Census. The number of inmates in the home on June 30, 1910, was 474 males and 375 females, and 19 males and 15 females were temporarily absent, making a total of 493 males and 390 females, or a grand total of 883 under supervision. The increase in two years has been 80 males and 74 females, a total increase of 154. There have been received during the two years 272 new cases, and there have passed out 118 inmates.

Expenditures. The expenditures for the two years were as follows:

Salaries	$144,232 30
Support	154,776 48
Ordinary repairs	8,097 03
Total	$307,005 81

The daily per capita cost of maintenance for the sixtieth fiscal year was 55.2 cents, and for the sixty-first fiscal year 54.8 cents.

Farm products. The value of the produce grown on the farm was $36,213.78 and the cost of producing the same was $29,428.76, and the profit from the farm $6,785.02.

Cash receipts. The cash received and placed to the credit of the contingent fund was $21,492.70.

Buildings. Considerable new building has been done in the last two years. Two cottages for epileptics, one for males and one for females, have been completed and are now occupied. The hospital has been enlarged by a new building of wood in the rear of the old one. A new manor house has been built; also a play room and gymnasium building for boys. A new power house is under construction. The building itself has been completed and two new 125,000 horse-power boilers installed, but the work has not been accepted by the Board, as there is no smokestack for the boilers. It has been in this condition for some time. The kitchen has been entirely rebuilt and put into first-class condition. In connection with the kitchen a cold storage plant has been constructed, but the machinery has not been installed and the work has not been accepted.

The most important construction has been the new administration building, which constitutes the front of the main building. It is a well built structure, but of a different style of architecture and out of harmony with the building of which it forms a part. This building was not completed within the appropriation, and the Board of Managers had to accept it in an unfinished state after the appropriation had been exhausted, and complete it out of the contingent fund. This required about $5,000. Nearly all the construction at this institution has exceeded the special appropriations therefor, and the Board of Managers has been compelled to accept it and complete from the contingent fund.

General repairs. The contingent fund is usually used for general repairs and keeping up the property. Owing to the necessity of using this fund to complete buildings, the repairs have not been made. There is considerable repair work needed about the older buildings, the old pine floors of the main building being in very bad condition. These should be replaced with new hardwood floors as soon as possible. A special appropriation should be made for this purpose.

Water. The water problem here has always been acute. There is now not sufficient water. A new reservoir has, however, been built this summer. This will collect a large supply of surface water, which can be used for irrigation and other purposes. An attempt to get a new well failed. Another effort probably should be made.

New buildings needed. The increase for the past two years has filled up all the new accommodations provided and the rooms and buildings are still overcrowded. The limit has not been reached; there are still many more to come in. Provision should be made for two hundred more during the next two years. Under the law passed by the last legislature, the State receives at least $10 per month for every inmate received. This will more than pay for the support, and the State should not hesitate to provide accommodations, attendants, and teachers. At present, the counties of the State are paying the State at the rate of $10 per month for 759, and the State is collecting from relatives for 111 at a still higher rate.

There should be built two more epileptic cottages, similar to the ones now there, one for males and one for females. To build these would require an appropriation of $25,000 for the two, and $5,000 additional for the furnishing.

There should be a large cottage for the low grade females. Their present quarters are on the second floor, where they do not get down to the ground and are greatly overcrowded. This room is also needed for the overflow of higher grade girls. At least one cottage is needed for low grade boys. These are now in a cottage and a barracks of wood adjoining. There are now 70 in the cottage and 50 in the barracks. The latter is only a board shed, built for an emergency four years ago. These are now overcrowded and more room is needed at once for this class.

At present there is not sufficient provision for the employees and they are temporarily quartered around over the surrounding country. More employees must be provided for and there is no place to put them. There should be two cottages built, one for male and one for female employees.

The industrial building, called Madrona Hall, should be remodeled. The lower floor now houses the industries, but there is not sufficient room. New industries should be established, but there is no room. The upper floor of this building is used for sleeping rooms for employees, which could be vacated, if separate cottages were provided for employees, and then remodeled. New rooms are wanted for the tailor shop and shoe shop, and rooms for sloyd, basketry, mattress making, and printing, none of which now exist in the institution. They are all needed for the purposes of industrial education.

Schools. There are now about 170 who should receive school training As we have said in previous reports, our home is very far behind in its school work. We have only four schoolrooms, used also for other purposes, and four teachers. If we followed the proportionate number of teachers in instiutions of this kind in other states, we would have from 10 to 15. There should be either one separate school building of from 12 to 16 rooms for both sexes, or two smaller ones aggregating the same number of rooms, for the separate sexes. The salary appropriation should also provide for sufficient teachers. The importance of educating the feeble-minded in this State has been underestimated. Many of them can be trained to self-support, and it is our duty and for our interest to do as much for their education as possible.

The commissary. This department occupies at present cramped quarters in the basement of the main building. A separate commissary building is very much needed.

Cottage for physician. At present there is no provision for housing the first assistant physician and he has to live outside of the grounds. His presence at the institution in emergencies is frequently needed, and he should live on the grounds. A cottage should be provided.

The grounds. Nothing has ever been done to beautify the grounds of this institution. Nature has done much and there are great possibilities here. The Board of Managers is very desirous of doing something in this direction. The time has come when a general plan, running far into the future, should be formed and then worked up to. The plans at this institution in the past have been to meet present emergencies and the future requirements have been too little considered. This applies to buildings as well as grounds. There is, we believe, no survey of the grounds.

Appropriation for support. The average number of inmates for the sixty-first fiscal year was 807 and the number present October 1, 1910, was 888, and the average number for the year will exceed 900. We estimate the number for the sixty-third fiscal year at 1,000, and for the sixty-fourth fiscal year at 1,100, providing there are accommodations for this number. The per capita cost for support for the sixtieth fiscal year was $99.22, and for the sixty-first fiscal year $102.90. We estimate, therefore, the amount needed for support for the next two years as follows:

Sixty-third fiscal year, 1,000 inmates at $103	$103,000 00
Sixty-fourth fiscal year, 1,100 inmates at $103	113,300 00
Total for the two years	$216,300 00

Appropriation for salaries. The amount paid out last year for salaries was $74,932.90, and the expenditures for the current year will amount to about $80,800.

The following additional employees are needed:

4 male attendants at $540	$2,160 00
4 female attendants at $480	1,920 00
1 blacksmith	720 00
1 extra cook	720 00
2 waitresses at $420	840 00
3 teachers at $600	1,800 00
1 porter	540 00
1 farm hand	420 00
1 assistant gardener	420 00
Total	$90,340 00

For the sixty-fourth fiscal year an assistant physician at $2,100 is needed; also 2 male attendants at $540 each, $1,080; and two female attendants at $480 each, $960. We therefore estimate the salaries as follows:

For the sixty-third fiscal year	$90,340 00
For the sixty-fourth fiscal year	94,480 00
Total for two years	$184,820 00

THE INDUSTRIAL HOME FOR THE ADULT BLIND.

Oakland.

BOARD OF DIRECTORS.

JOHN P. IRISH, *President*	Oakland
GEORGE E. RANDOLPH, *Vice-President*	Oakland
H. C. CAPWELL	Oakland
WARREN OLNEY, SR.	Oakland
J. W. SCOTT	Oakland

JOSEPH SANDERS, Superintendent.

Census. The population of the home has remained stationary during the past two years. The number on the roll June 30th last was 92 males and 21 females, a total of 113. There have been admitted during the two years 32, discharged 23, and died 11. The daily average for the two years has been 110.

Expenditures. During the past two years the expenditures have been as follows:

Salaries	$22,804 00
Support	31,483 70
Ordinary repairs	2,277 67
Extraordinary expenses	62,155 00
Total	$118,720 37

The daily per capita cost for maintenance for the sixtieth fiscal year was 67.5 cents, and for the sixty-first fiscal year 74.2 cents.

Administration building. At the commencement of this biennial period all the buildings of this institution were of wood. The legislature of 1907 appropriated $50,000 "to be expended in the construction of a building for the accommodation of the inmates of said home, for dormitory, dining-room, and such purposes as will relieve the congestion of the said institution." This building has recently been completed and is of concrete, two stories in height, and contains on the upper floor rooms for officers and the blind women, and on the first floor the administration offices, dining-room, superintendent's dining-room, and the kitchen. The cost of this building has exceeded the appropriation by more than $5,000.

Improvements to plant and grounds. There was appropriated by the last legislature $12,155 for improvements to the plant and grounds.

There have been new wells bored and a pumping plant constructed, stone sidewalks laid on Thirty-sixth street, and a new iron fence on both street sides of the grounds. The place now presents a good appearance. The cost, however, has exceeded the appropriation by a few hundred dollars.

Use of support fund. An increase in the appropriation for support was given last year on the ground that this new building would be completed and a large number of new admissions received. This has not been the case. The new building is just completed and there has as yet been no increase in numbers. The extra appropriation for support has been drawn upon to meet the deficiencies in the construction work.

Repairs and new buildings. The old administration building just vacated can be repaired and arranged for dormitories for men. The buildings for housing the men are all old, out of repair, and poorly furnished. While they could be made to do service for a time longer, yet they are a menace to the lives of the occupants, on account of danger from fire. Whenever the legislature can provide for it, a new dormitory for men, to accommodate from 150 to 200 should be built, or better still, three or four smaller buildings to accommodate the same number.

The industries. The industries at present are the cane seating of chairs by the women, and the manufacture of brooms by the men. During the past two years the products sold amounted to $49,999.55, and there was paid to the inmates for their labor $9,676.80, and the State received $2,561.32. The State maintains the inmates, with the exception of clothing, and also keeps up the plant. The income to the State is not sufficient to keep up the industrial plant.

Appropriation for support. During the past two years there has been expended for support, including per diem and expenses of directors, $31,483.70, and the annual per capita cost has been $152.52. A small increase in numbers should be provided for. We estimate the amount needed as follows:

Sixty-third fiscal year, 120 inmates at $152.52	$18,302 40
Sixty-fourth fiscal year, 125 inmates at $152.52	19,065 00
Total for the two years	$37,367 40

Appropriation for salaries. The amount expended for salaries during the last two years was $22,804, and the demands for the next two years will be met by an appropriation of $24,000.

THE INSTITUTION FOR THE DEAF AND BLIND.

Berkeley.

BOARD OF DIRECTORS.

GEO. W. REED, *President*	Oakland
W. E. CREED, *Vice-President*	Berkeley
M. C. CHAPMAN	Oakland
WALTER J. MATHEWS	Oakland
THOMAS RICKARD	Berkeley

DOUGLAS KEITH, Principal.

Census. The number of pupils under instruction during the sixtieth fiscal year was 237, and during the sixty-first fiscal year 251. There were admitted during the two years 74, and there were graduated and discharged 62. Of these about one third are blind and two thirds deaf.

Expenditures. The expenditures during the two years have been as follows:

Salaries	$88,309 65
Support	49,673 97
Ordinary repairs	3,010 49
Total	$140,994 11

The daily per capita cost of maintenance has been 79.6 cents for the sixtieth fiscal year and 78.8 for the sixty-first fiscal year.

Cash receipts. The cash received and placed to the credit of the contingent fund amounted to $12,496.74.

Change of principal. Dr. Warring Wilkinson, who served the institution for many years, has been compelled on account of age to relinquish his position as principal. Dr. Wilkinson has built up and made this institution. It is one of the most efficient, and also one of the best managed of any of our state institutions. The State owes much to Dr. Wilkinson for his untiring efforts in behalf of these classes of defectives. Mr. Douglas Keith, formerly clerk, succeeds to the position of principal.

Repairs. There was an appropriation of $13,000 made by the last legislature for the general purpose of repairs. This has been used. Some water mains have been laid and some new plumbing installed. This appropriation has been expended to good purpose, but it is not sufficient. The plumbing is old, and much new work has been required. Sufficient funds should be provided to complete the work.

Water supply. The water system is still in an unsatisfactory condition. It is insufficient and there is not sufficient pressure for fire protection. The supply comes from springs and a tunnel. Pipes have been laid and hydrants placed during the past year, with the intention of buying water and connecting with the system of the People's Water Company of Berkeley, but the pipes of that company do not develop sufficient pressure to be any protection against fire at this altitude. The institution owns a one-third interest in the supply of a creek on Claremont avenue, about a mile away. There are also two reservoirs of 100,000 gallons each, now out of repair, that could be repaired, and, if supplied from the creek mentioned, would probably be sufficient. Of the feasibility of this plan an engineer could determine.

Trades building. As this report was being completed, a fire destroyed the trades building. This was an old wooden building built for a temporary home for the institution, following a fire many years ago. This building has long been a menace, and was burned the night of October 31st, and with the lack of water pressure for a time threatened the existence of the whole institution. The legislature should provide for a new building, and it should be one safe and sufficient for the needs of the institution.

Industrial training. The first object in educating the two defective classes at this school is to make them self-supporting citizens. For this purpose they must be taught a good occupation. Many trades are open to the deaf, and the industrial work heretofore for this class has not been all it should have been, and mainly on account of the lack of facilities. The deaf, however, have been much better provided for in this regard than the blind. The latter have received almost no industrial training. The principal is anxious to introduce more industrial training for this class, and in planning the new building which must be built the blind should be provided for.

Appropriation for support. The cost of support during the past two years has been $49,673.97. The amount needed for the next two years will be at least $50,000.

Appropriation for salaries. The amount paid out for salaries last year was $45,090.86. Two employees are now being paid from the contingent fund. There are further donations to the amount of about $75,000, which are held in trust for the benefit of the deaf and blind. Heretofore the income from these funds has been used for maintenance. It was undoubtedly not the intention of the donors to relieve the State from the cost of maintenance, but to provide the deaf and blind with things which the State did not. If the State assumes the full burden of maintenance the appropriation for salaries should be about $110,000.

THE COUNTY JAILS.

New jails. The past two years has witnessed marked improvement in our county jail system. Three new jails have been built—in Alameda, Sacramento, and Inyo counties, respectively. The first two of these, we believe, are fully equal to the best to be found anywhere. We extend our congratulations and praise to the boards of supervisors of these counties for their efforts to build something that will endure, and at the same time conserve the best interests of the prisoner and society. We commend them as models to other county boards contemplating the construction of a jail. The jail in Inyo County has been built upon plans suggested by this Board, and we believe will fully meet the requirements of that county. We also commend the smaller jails of Humboldt and Solano counties finished two years ago. The cell house of the Madera County jail has been rebuilt and greatly improved. It now contains modern cells and permits of the legal classification of prisoners. New and modern jails are now under construction in San Francisco and Stanislaus counties.

The pace has now been set, and as the old jails of from thirty to fifty years ago are replaced, it will be by new ones built upon the best modern ideas. The old jails of the State are generally inadequate, insecure, and unsafe from danger of fire. They also have conditions that make for the worst. They have been called ''primary schools of crime,'' and such many of them are. It must be remembered that the young man upon arrest, whether guilt or innocent, is locked up in the county jail. The conditions of his incarceration will either make of him a common criminal or correct his error and set him free an honest man.

Jail construction. The importance of county jail construction and management is so great that we append the following comments:

*The first necessity of a good county jail is a properly constructed building. Most of our new jails are fireproof and sufficiently strong to hold the prisoners, and make a fairly good appearance to the public. They lack, however, provisions for properly separating and classifying the prisoners. Inside the jail the prisoners are too often allowed to associate together during the day. The older retail to the younger stories of crime, real or imaginary, and the one who puts up the hardest record is most likely the hero of the jail. They study crime. We have seen the whole population of a certain jail seated around a large table, with the daily papers before them, reading and discussing the latest sensational murder story. Into such a place young men are thrown, guilty perhaps of a trivial misdemeanor, to emerge in thirty or sixty days fully determined to follow a life of crime, the results of a criminal education while serving a short jail sentence. Such cases can be numbered by the hundreds.

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*(From address of Secretary Gates at American Prison Congress, 1909.)

To cure these evils there must be a proper segregation and classification of prisoners. There should be in every jail sufficient cells to accommodate the prisoners, one prisoner only to a cell. This is our theory in prisons and we do not always reach it, but it is even more necessary in the county jail, where the whole day is spent in idleness. It is better that the cells be small if necessary to insure separate confinement. The large double cell built expressly to hold four prisoners should be condemned.

The building should be so planned as to provide sufficient rooms or departments, separate from each other, to accommodate the different classes that must be confined there, and to provide that the young shall not come in contact with the old, nor the first offender with the hardened criminal.

The law of California requires that those held for trial shall not be confined in the same room with those serving sentence. There is no provision for separation as to age or degree of criminality, and in many jails even this law is not observed. Among those held for trial are many found to be innocent; and others, young men guilty of the worst of felonies. To put these prisoners together would be a crime against society, and yet it is a crime we are committing in most of our county jails.

Every man who has been arrested and charged with a crime, and who is deprived of his liberty by the State, pending his trial in court, has a moral right to considerate and humane treatment, for it must be remembered that fully one half are later found by the jury's verdict to be innocent. The State or county has no moral right, while thus depriving a man of his liberty and his means of protecting himself, to endanger his bodily health by exposure to disease, filth, or unsanitary conditions, or to endanger his moral health by contamination with the vicious, depraved, and rotten characters frequently found in county jails.

Frequently two or more men are apprehended as accomplices in the same crime, and the ends of justice demand that these men be confined where they can not communicate with each other.

Jail sentences in punishment for crime are usually given for misdemeanors or minor crimes. Occasionally, under the charge of vagrancy, some bad criminals are sentenced for misdemeanors, and often young men are required to serve such sentences. There should, therefore, be some classification of those serving sentence in the county jail.

The number of women who find their way into the county jail is small, but their separation from the male departments should be so complete that neither can know who the prisoners are in other departments, or whether there are any or not. Two departments with an emergency room or two, that can be used for women if required, will answer the requirements, except in the largest urban counties.

The laws of California, and so of some other states, now prohibit the confinement of children and insane in the county jail. Each county must provide a separate detention home for juvenile delinquents and a detention hospital for suspected cases of insanity. Neither of these is under the control of the sheriff.

The best sanitary appliances are placed in modern jails. Each cell contains its toilet and wash basin, with running water and sewer connections. The windows are sufficient in number and size to furnish good light in each cell. Sunlight should enter each cell during some portion of the day. It is good not only to destroy the germs that hide in dark and dirty corners, but also many microbes that lurk in the souls of men.

Location of jail. The location of the jail is usually on the court house square. This is very objectionable. It is convenient to the court but too much in public view. A better plan is to locate it upon a separate block in a less conspicuous place and where there could be a good sized yard surrounding it, enclosed by a wall. Within this yard labor could be provided for those prisoners serving sentence. One California jail similarly located keeps prisoners serving sentence vigorously at work breaking stone by hand for road building. The plan has been profitable to the county and has also provided work for prisoners, where the vagrant in winter season flourishes as the green bay tree.

Jail management. A good jail building does not, however, insure a good jail. There is very much dependent upon the management. The sheriff, as the executive officer of the county, has this as a part of his duties. He is generally a man of no experience in jail management, and the jailer, whom he appoints, probably never saw the inside of a jail until after his appointment. There are, however, many good sheriffs and well managed jails, but they are the exception and not the rule. Many more do not take enough interest in the jail to see that the law is observed. They make no attempt to properly classify or make better the men confined. Their only object is to *keep* the prisoners. Discipline is conducted on the principle of following the line of least resistance. In many jails the discipline is largely in the hands of the prisoners themselves, and they exercise it through what they call the "Kangaroo Court."

The question of feeding is frequently a troublesome one in the county jail. In most of the smaller counties of California the food for the prisoners is furnished upon contract by some hotel, restaurant, or private householder. Usually but two meals daily are served, and the contract price per meal varies largely. I have found the meals furnished under this system generally good, and in very few instances have the prisoners complained of the quality or quantity of food provided. In fact, considering the lack of exercise, some of our prisoners have been too well fed. In some jails there is a kitchen in connection. In all the larger jails a cook is employed. This method works well where there are conveniences for it. We have at least one jail in which the kitchen will compare favorably with that of the best hotels in the State. In a few jails the cook is a prisoner deputized for the purpose. This is objectionable on account of the frequent changes and lack of interest. In one jail at least the food is passed in to the prisoners, and each has access to the cook stove and prepares his own. This is the worst method of all. In this jail, food can be found scattered all around.

The larger jails are probably best served by an employed cook, from a separate jail kitchen, but in the smaller ones a good kitchen should be located in connection with the residence, and the meals furnished by sheriff or jailer. In our new jails of four stories the kitchen, as well as bakery and laundry, is located on the top floor and so arranged that prison help can be used.

The laundry work is frequently a source of trouble in jail management. We have found jails where the bedding was never washed, and where each prisoner was compelled to wash his own underclothing as best he could without facilities. In the majority of jails the prisoners are compelled to wash their own clothing with inadequate or unsatisfactory facilities, and the bedding is sent out to be cleaned "semi-occasionally." Most jails use canvas hammocks for beds, and either quilts or blankets for bedding. Frequently to our question, "How often is bedding washed?" the answer is, "Not at all; when it gets too dirty we burn it." Too dirty! What degree of filth is necessary for cremation we have not been able to determine. In our larger new jails we are putting in laundries, and in the smaller jails we advise the sheriff to patronize laundries outside the jails, and do it more frequently.

To improve the county jail it is necessary not only to construct proper buildings, but also to reform the management. This does not seem possible without changing the method of selecting jailers. Their selection must be taken out of politics, be made upon merit, and the appointee be assured that he can continue during good service. We have no suggestion to make as to how this may be done, but it is a problem which, let us hope, the future may solve.

The curse of idleness. Another essential for the improvement of the county jail system is the substitution of labor for idleness. We can not of course compel the man who is held for trial to labor while waiting his day in court, but those who have been convicted and sentenced to serve terms in the county jail can and should be compelled to labor, both for their own good and for compensation to the county. The laws of California authorize the supervisors of the county to provide certain labor for the prisoners, but in fifty-seven counties only three last year were successfully working prisoners. In a majority of the counties the number of prisoners is too small to make the labor pay for the guarding while at work. The solution of this difficulty is within our grasp. It lies in establishing district workhouses, where a number of contiguous counties can send all sentenced prisoners to the same institution. The State should establish and maintain enough such workhouses to meet the requirements, and all persons sentenced upon conviction to a jail sentence should be required to serve such sentence in a district or state workhouse. Such a workhouse under state management is more likely to be free from politics than if under the control of the county. The working out of the proper kind of workhouse is another problem, but we are confident that it can be done to the great advantage of the State, the prisoner, and society. The county jail would then become merely a place of detention. Once dissassociated from the serving of sentences, the public would probably take more interest in making it a suitable place of detention.

To reform the county jail and make it an instrument of good instead of evil, the following steps are necessary:

1. *District workhouses* for all prisoners sentenced to terms in jail, and a proper labor system installed therein.
2. *A separate cell for each prisoner,* well lighted and ventilated, and supplied with sanitary plumbing.
3. *Sufficient rooms or departments,* so that prisoners may be classified according to sex, age, and apparent criminality, and each class be completely separated from the other.
4. *Trained jailers,* with humane instincts and high character, who appreciate the opportunity of making better the persons placed in their charge.

INSPECTIONS OF COUNTY JAILS.

ALAMEDA COUNTY.

FRANK BARNET, Sheriff, Oakland.
P. J. WHITE, Chief Jailer.

Average number of prisoners in jail	72
Total number in jail during year	806

Construction. This county now has probably the best jail in the State, completed during the past year. There are in all eleven departments, each distinctly separated from the others. There are six different departments for men, of 11 cells each, and each department as distinct from the others as though it were a separate jail.

Sanitary conditions. The building is well lighted and sunlight enters practically all of the cells. Electric lights are used. The building is steam heated and has a good ventilating system. City water is provided, and each cell contains a lavatory and toilet with running water, and each cage contains shower baths. There are city sewer connections. Bathing is required regularly. The prisoners in the main presented a neat, clean appearance, and the jail was clean throughout.

Care of prisoners. In general two meals are served daily, but workers receive three. The hours of meals are 7.30 a. m. and 2.30 p. m. The price allowed is 25 cents per day. There is a good jail kitchen on the top floor, and a prisoner is in charge as cook. There is also on the same floor a good laundry, where the clothing of prisoners is washed. The county furnishes what clothing is required. Hammocks and blankets are used for beds. Sheets are furnished in the female department. A special jail physician is employed, who visits the jail daily and oftener if required. There was but one case under physician's care at the time of our visit. All prisoners, upon entrance to the jail, are carefully examined for vermin or disease. Not more than two prisoners are placed in one cell, and very few cells have this number. There is no occupation except the work of the jail. Religious services are held weekly and reading matter is provided.

Management. Those awaiting trial and those serving sentence are kept in separate departments. There is also a separate department for women, in charge of a good jail matron. Prisoners are kept in their cells and not allowed to associate together, except when being exercised in the jail corridor night and morning. There is a department for boys, but only the worst class is kept here, as there is also in the county a detention home. There is separate provision for detained witnesses. In fact, the classification of this jail is as perfect as can be expected, and the management of the jail is enforcing the classification and making of it what it was intended to be. There is good discipline, and diet on bread and water is the only punishment used. Separate confinement of prisoners in cells prevents any attempt at a kangaroo court.

BUTTE COUNTY.

J. M. Chubbuck, Sheriff, Oroville.

Frank Tobin, Jailer.

Average number of prisoners in jail	18
Total number in jail during year	410

Construction. This jail is a separate building of brick and steel in good repair, located on the courthouse yard. It has three separate departments and two rooms. There are six cells in each department, constructed of steel.

Sanitary conditions. Light in daytime is good, but it is doubtful if sunlight can enter the cells on the lower floor. Electric lights are used and heating is by steam. There is good ventilation and good water supply. There are five toilets and three bath tubs in good condition, connected with city sewer. Premises were clean.

Care of prisoners. Three meals are furnished daily, prepared by the sheriff and served individually. Seventeen and one half cents a meal is allowed. Hammocks with blankets are used for beds, and were fairly clean. Washing is done by the prisoners in basement of the jail. There is no hospital ward, and no prisoners were under physician's care. Prisoners are employed at county work. Good reading matter is furnished, but no religious services are held.

Management. Those awaiting trial are kept in a separate room from those serving sentence. There is also separate provision for women, who are handled but not searched by male jailers. Prisoners are not kept in cells, but associate together. No children are confined in the jail. There is provision for detained witnesses. Insane cases are kept at the county hospital and in one room in the jail. There is one jail employee, and discipline appeared to be good.

COLUSA COUNTY.

C. D. Stanton, Sheriff, Colusa.

J. F. Rich, Jailer.

Average number of prisoners in jail	4
Total number in jail during year	22

Construction. This jail is a separate brick building in good repair, and located on the courthouse square. There are four departments and two rooms, sixteen cells in all. The three cages on the lower floor are tanks. The cage on the second floor has six cells, and is open lattice work on sides and top. Some of the tanks are open on the top; others are solid except for the food opening. The interior had been newly painted.

Sanitary conditions. The light in daytime is poor and sunlight does not enter cells. Electric lights are used and stoves for heat. There is no ventilation except windows. Air seemed to be fairly good. There is a good water supply, with three toilets and three bath tubs in fairly good condition. Sewerage is into a cesspool. The premises were clean.

Care of prisoners. Two meals daily are furnished by a hotel and served individually. Hours of meals are 8 a. m. and 2 p. m., and 20 cents a meal is allowed. Bunks and blankets are used for beds. Prisoners wash their own clothing inside the cage, and blankets are also washed in the jail. There is no hospital ward, and no prisoners were under care of physician. There is no labor for prisoners except on the courthouse yard. Good reading matter is furnished, but no religious services are held.

Management. There is separation of those awaiting trial from those serving sentence. Women are properly separated, but are handled by male jailers. Prisoners are permitted to associate together. No children are kept in the jail. There is a padded room for insane. Discipline appeared to be good.

CONTRA COSTA COUNTY.

R. R. Veale, Sheriff, Martinez.

Average number of prisoners in jail	24
Total number in jail during year	564

Construction. The jail is an imposing building of stone in the rear of the courthouse. There are three departments, well separated, of 1, 6, and 6 cells, respectively. The cages are of perforated plate with a central corridor. The cages and walls were getting a new coat of paint at the time of our visit.

Sanitary conditions. The light by day is poor but sufficient for reading, but no sunlight enters the cages. The building is lighted by electricity, heated by steam, has city water and sewerage, three toilets and bath tubs in good condition. The premises were clean and in good sanitary condition.

Care of prisoners. The food is prepared in kitchen in basement and served individually in cells. Two meals are given daily. The county furnishes necessary clothing. Hammocks with blankets are used for beds. The bedding was found in fairly clean condition. There is no hospital ward. The cells are double, but not at present overcrowded. No labor except house work is required. Reading matter is furnished; no religious services are held.

Management. The classification required by law is observed, except that there is no provision for detained witnesses. Insane are kept at the county hospital. The discipline is good. A dark cell in the basement is used for punishment.

DEL NORTE COUNTY.

A. J. Huffman, Sheriff, Crescent City.

J. P. Crawford, Jailer.

Average number of prisoners in jail	1
Total number in jail during year	26

Construction. The jail is a separate building of stone located in the courthouse yard and in fair repair. There is one department and three rooms. There are two cells in the cell room, constructed of steel.

Sanitary conditions. The light is fairly good and sunlight enters the jail. Lighting is by means of electricity and heating by stoves. Ventilation is fairly good. There is good city water supply, with three toilets in rather bad condition, and a common washtub furnishes all the bathing facilities. There are no sewer connections. Premises were fairly clean.

Care of prisoners. Three meals are furnished prisoners daily, under contract with a hotel at 35 cents a meal. Meals are served in congregate. There are two bunks in each cell and two iron beds on the outside. Blankets are used and bedding was in fairly clean condition. The prisoners wash their own clothing in the jail, but blankets are sent out to a laundry. There is no hospital ward and no prisoners were under care of physician. Those serving sentence are required to saw wood. Reading matter is furnished, but no religious services are held.

Management. There is no legal separation of prisoners possible in this jail and prisoners are not kept in their cells, but associate together. There have been no women prisoners for some years, and children are not confined in the jail. There is no provision for detained witnesses, and insane are detained at the county hospital. There is one jail employee, and discipline appeared to be fairly good.

FRESNO COUNTY.

R. D. Chittenden, Sheriff, Fresno.

Ed Jones, Chief Jailer.

Average number of prisoners in jail	74
Total number in jail during year	2557

Construction. The jail is a separate brick building in the courthouse yard. There are five departments, in three of which are steel cages of 8, 10, and 10 cells, respectively. The cell rooms are in two wings extending at right angles from the jailer's office, and separated from it only by iron grating.

Sanitary conditions. The light in daytime is fair, though very little sunlight can enter the cages. The building is lighted by electricity, heated by steam, has city water supply and sewer connections, with toilet and enamel bath tub in each cage. The premises were clean.

Care of prisoners. Two meals, at 8 a. m. and 4 p. m., are usually furnished, but those who work are given an extra noon meal. Meals are prepared in kitchen on premises by hired cook and trusties. Necessary clothing is furnished. Prisoners wash their own clothing inside the cage, and the bedding, consisting of blankets, is boiled in the yard, a small enclosure connected with the jail. Hammocks are used. The jail is badly overcrowded. We found 22 prisoners in eight cells, six feet six inches by eight feet in size, in the cage where those charged with felony were held. There is no occupation except work in building and on the courthouse yard. Twenty-six prisoners, however, were working at the time of our visit. Prisoners have exercise in the cage corridor, are furnished reading matter, and have religious services every Sunday.

Management. Classification is fairly good. Prisoners are not confined to their cells, but allowed to associate together. Women prisoners are handled and searched by wife of deputy sheriff. The insane are kept in rooms under the courthouse. Discipline is good and no "kangaroo court" is allowed.

GLENN COUNTY.

J. A. Bailey, Sheriff, Willows.

J. W. Munroe, Jailer.

Average number of prisoners in jail	5
Total number in jail during year	75

Construction. This jail is a separate brick building in good repair, located on the court house square. It has one department of six cells and three rooms.

Sanitary conditions. The light is fairly good, though sunlight does not enter cells. Electric light and steam heat are used. There is no ventilation except by windows; air seemed to be fairly good. There is good water supply, with one toilet and one iron bath tub. Cesspool has been used for sewerage, but connections will be made soon with a new city sewer. Premises were clean.

Care of prisoners. In general two meals are given prisoners daily, but workers receive three. They are prepared by the sheriff at his house and served at a congregate table. Hours of meals are 9 a. m. and 4 p. m. and 25 cents a meal is allowed the sheriff. There are some iron beds and some hammocks, with mattresses and blankets. The blankets are not washed, but when too dirty for use are burned. The prisoners wash their own clothing in the jail. There is no hospital ward and one prisoner was under the care of physician. Prisoners are worked upon the yard of the courthouse and on the streets. Reading matter is furnished and occasionally religious services are held.

Management. The classification required by law is impossible in this jail. Provision is made for the separate confinement of women, but there have been no women prisoners for four years. Prisoners are allowed to associate together. Children are occasionally kept in the jail, but are separated from other prisoners. Insane are detained at both county hospital and jail. There is one jail employee, and fairly good discipline is maintained.

HUMBOLDT COUNTY.

J. W. Fairall, Sheriff, Eureka.

J. H. Campbell, Jailer.

Average number of prisoners in jail	11
Total number in jail during year	133

Construction. This jail is a separate new concrete building, located on a lot opposite the courthouse. There are in all nine departments with forty-two cells, all of steel and properly separated. This is a modern jail but the provisions for insane are not satisfactory. It would be much better if the cells used in this department were replaced by rooms.

Sanitary conditions. This jail is well lighted in daytime and sunlight enters most of the cells. Electric lights are used and heating is by means of hot vapor or water. Ventilation is good and there is a good city water supply, with toilet in each cell in good condition. There are bathing facilities in each department, in good condition. Connections are made with the city sewer. Premises were in excellent condition.

Care of prisoners. Two meals are served prisoners daily at 8 a. m. and 5 p. m., prepared by a woman residing in the vicinity, under contract at 50 cents a day per prisoner. The meals are served individually. Bunks furnished with blankets are used, and the bedding was clean. There is a laundry in the basement and washing is done there. There is a good hospital ward, but no cases were under physician's care. No labor except upon the jail and courthouse yard is required. Reading matter is furnished and religious services are occasionally held.

Management. This jail provides excellent classification and women are not handled by male jailers. Prisoners are kept in their cells and there is only moderate association together. The county has an excellent detention home for children. There is good provision for detained witnesses and separate department for insane. We are forced to admit, however, that the arrangement of this department is a blunder. Discipline was good. There is one jail employee.

IMPERIAL COUNTY.

Mobley Meadows, Sheriff, El Centro.
Percy Kilgore, Jailer.

Average number of prisoners in jail	8.5
Total number in jail during year	117

Construction. The jail building is of brick and connected with the courthouse. It is nearly new and in good state of repair. There is one department with a steel cage of four cells and two rooms.

Sanitary conditions. The light is fairly good in daytime and a little sunlight enters the cells. Electric lights are used and steam heat. There are three toilets in fair condition and one bath tub, located in the jailer's corridor. No hot water for bathing is provided. There is city water supply and city sewer connection.

Care of prisoners. Two meals daily are furnished the prisoners, prepared by an employed cook. The hours of meals are 9 a. m. and 4 p. m., and 25 cents per meal is allowed, the prisoners being served individually. Iron bunks supplied with blankets and mattresses are used. The clothing of prisoners, as well as the blankets, is washed by themselves in the jail. One prisoner was under the care of physician at the time of our visit. There is no hospital ward. The cells are made double and arranged to accommodate four prisoners, but there was only one prisoner in a cell at the time of our visit. There is no occupation except the jail work, and no exercise except in the cage. Reading matter is furnished but no religious services have been held for a year.

Management. Prisoners awaiting trial are not separated from those serving sentence, and women are handled by male jailers. Prisoners are permitted to associate together and children are sometimes kept in the jail, but in one of the front rooms. There is no separate provision for detained witnesses. Insane are kept at a private hospital. Discipline appeared to be good.

KERN COUNTY.

J. W. Kelly, Sheriff, Bakersfield.

A. M. Bell, Jailer.

Average number of prisoners in jail	64
Total number in jail during year	1417

Construction. The jail is a separate brick building in poor state of repair. It is in tower form, three stories high, with four cages and three separate rooms. The cages contain 8, 8, 5 and 6 cells, respectively, of masonry and steel.

Sanitary conditions. The light in daytime is poor, and there is no sunlight in these cages. Electric lights are used and heating is by means of steam. Ventilating is by windows only. There is a good water supply, a toilet, and bath tub in each cage. The condition of the toilets was not good. There is city sewer connection but the plumbing is bad. The premises were fairly clean.

Care of prisoners. Two meals daily, prepared in a kitchen in the jail building, are served to the prisoners individually at 8 a. m. and 4 p. m. The price allowed by the supervisors is 35 cents a day per prisoner. Bunks supplied with blankets are used. These are evidently not washed as often as they should be. Prisoners wash their own clothing in the jail. There is no hospital ward and none were under the physician's care at the time of our visit. Prisoners do the jail work, and also some work on the courthouse yard. Reading matter is furnished and religious services are held regularly.

Management. Women are kept in a separate department and a matron is employed. Prisoners awaiting trial and those serving sentence are confined in separate rooms. They are not confined to their cells. There is also a separate room for witnesses, and also for insane.

KINGS COUNTY.

W. V. Buckner, Sheriff, Hanford.
M. B. Morse, Chief Jailer.

Average number of prisoners in jail	12.5
Total number in jail during year	171

Construction. This jail is a separate building of stone and brick in good repair, situated about one block from the courthouse. It has three departments and two rooms. These departments contain 4 and 4 cells, respectively, and one large cage not separated into cells.

Sanitary conditions. The light in daytime is fairly good, but sunlight does not enter the cells. Electric lights are used and heating is by means of a hot water system. There are ventilating flues and the cells seemed to have good air. There is a good water supply, with four toilets and four bath tubs, all in good condition, with city sewer connections. The premises were clean.

Care of prisoners. Two meals are served daily, prepared by a prisoner cook in a kitchen on the premises. The prisoners are served individually. The hours of meals are 9 a. m. and 3 p. m., and the price allowed per day by the supervisors is 37½ cents per prisoner. Bunks and hammocks are both used and blankets are furnished. Prisoners wash their clothing in their cage and blankets are not washed very often. There is a hospital ward, but no patients were under physician's care at the time of our visit. There is no work except the ordinary jail work. Prisoners have exercise only in their small cages. Reading matter is furnished, but religious services are not now held.

Management. Prisoners awaiting trial and those serving sentence are kept in separate rooms, and women are properly segregated, but there is no matron. There have been only four women prisoners in six years. Prisoners are allowed to associate together in the cage. There is provision for detained witnesses. Insane are kept in a separate room over the sheriff's office. There is but one jail employee. Discipline appeared to be good.

LOS ANGELES COUNTY.

William A. Hammel, Sheriff, Los Angeles.
George Gallagher, Chief Jailer.

Average number of prisoners in jail	173
Total number in jail during year	2786

Construction. This jail is a separate building of brick and stone, opposite the courthouse. There are ten departments. The cell house proper contains two cages, each three stories high. Each cage floor contains fifteen cells and a bath, but the system of shower baths in the basement is the most satisfactory. The kitchen and laundry are on the top floor. There are on that floor two rooms of four cells each, one of three cells, and the women's department of ten cells.

Sanitary conditions. A part of the cells in the cell house are too dark. Electric lights and steam heat are used. The water supply is city and good. There are sufficient toilets, connected with city sewer. Premises were very clean and in excellent condition.

Care of prisoners. The prisoners are well fed from a kitchen on the top floor, and meals are served in individual tins. All necessary clothing is furnished and washing is done by each prisoner for himself. Hammocks and blankets are used for beds, and washing of blankets is done in laundry on the top floor. There is a good hospital ward and operating room, and a special physician. All prisoners are carefully examined upon entrance. There is no labor but the housework and exercise is given in the cage corridors. Prisoners have a variety of reading matter and there are religious services.

Management. Different classes of prisoners are kept separate and women's department is under a matron. Insane are detained at county hospital. The discipline is good. The records are very complete and a good identification system is kept. The jail shows extra good management.

MARIPOSA COUNTY.

R. A. PROUTY, Sheriff, Mariposa.

Average number of prisoners in jail	.5
Total number in jail during year	18

Construction. This jail is a separate granite building in good repair, located at some distance from the courthouse, and quite isolated. There are three departments, properly separated. There are four cells on the lower floor and the upper floor is a loft without cells. These cells are constructed of granite masonry.

Sanitary conditions. The light is very poor and no sunlight enters the cells. There are a few electric lights, but candles are also used. Heating is by means of a stove on each floor. Ventilation is poor. There is a good water supply and sewer connection, with one toilet and a washtub for bathing purposes. Water for bathing must be heated on the stove. The premises were fairly clean.

Care of prisoners. Two meals are served daily, prepared at a hotel, and served individually. The meals furnished are very good and the price allowed is 30 cents a meal. Clothing is washed by the prisoners inside the jail. Iron beds with mattresses and quilts are used. There is no hospital ward and no prisoners were under physician's care. No occupation is given. Not much reading matter is furnished, and no religious services are held.

Management. There is no classification in this jail and women are handled by male jailer. The record shows but three women prisoners in eighteen years. Prisoners are not kept in their cells, but associate together. There is no provision for detaining children or insane in this county except in the jail. The lower cells are not frequently used, on account of the lack of air and ventilation.

The stone work in this jail could be taken out and a modern cage put in and larger windows cut. These changes would make a fairly convenient jail.

MENDOCINO COUNTY.

R. E. DONOHUE, Sheriff, Ukiah.

W. H. GIBSON, Chief Jailer.

Average number of prisoners in jail	11
Total number in jail during year	122

Construction. This jail is a separate building of brick, one story in height, located in the courthouse yard. There is only one department, which has a steel cage of ten cells.

Sanitary conditions. The light in the cells is furnished by a skylight and is sufficient for reading in daytime. No sunlight enters the cells. The heating is by stoves and ventilation is by means of windows, which are kept open. There is good water supply, one toilet in fair condition, one bath tub, and city sewer. No hot water is provided except in a boiler on the stove.

Care of prisoners. Three meals are furnished daily to those prisoners who work, and two meals to those who do not work. Meals are prepared outside and served each prisoner separately, 22½ cents a meal being allowed. Iron bunks with blankets are used. Prisoners wash their own clothing in the jail and blankets are sent to a laundry. There is no hospital ward and no one on the sick list. Labor on the streets is performed by those serving sentence. Exercise is taken in cage corridor. Reading matter is furnished but no religious services are held.

Management. This jail does not provide for any classification. If women are confined, it must be within the hearing of the male prisoners, and when taken out and in, are in the sight of the men. The prisoners are locked in their cells at night and associate together during the day. Insane are kept at the county hospital.

MERCED COUNTY.

John S. Swan, Sheriff, Merced.

W. M. Davis, Jailer.

Average number of prisoners in jail	18
Total number in jail during year	336

Construction. This jail is a separate building located in the rear of the courthouse. The front portion is two stories in height, with sheriff's office on the first floor, and rooms for women and boys on the second floor. The cell house, extending to the rear, has two floors, with three cell rooms containing eighteen cells, besides a dungeon. Part of the cells are constructed of steel and part of masonry.

Sanitary conditions. The light is fairly good, but sunlight does not enter cells. Both electricity and gas are used, and heating is by stoves. There is fairly good ventilation and water supply. There are fourteen toilets in good condition and four roll top bath tubs also in good condition. The premises were clean.

Care of prisoners. Two meals are furnished for prisoners in general, but three are given to those who work. Forty cents a day is allowed for the first ten prisoners and 30 cents for each additional prisoner, 15 cents being allowed for each noon lunch. The prisoners wash their own clothing and the blankets in the jail. There is no hospital ward and no prisoners were under physician's care. Good reading matter is furnished and no religious services are held.

Management. Prisoners serving sentence and those awaiting trial are kept in separate rooms. Women are kept separate and are handled by women. Prisoners are not kept in their cells. There is separate provision for detained witnesses, and insane are kept at the county hospital. There are four jail employees. The discipline was found to be good.

MONTEREY COUNTY.

W. J. Nesbit, Sheriff, Salinas.

J. H. Robinson, Jailer.

Average number of prisoners in jail	23
Total number in jail during year	351

Construction. This is a separate building, nearly new, of brick and stone, located on the courthouse square. There are four departments, properly separated, with twenty cells. One of the cages is of tool-proof and one of Bessemer steel.

Sanitary conditions. This jail is fairly well lighted and some sunlight enters the cells. Electric lights and steam heat are used. There is good city water supply, with sewer connections. There are in all six toilets in fairly good condition. There is one bath tub and three shower baths, located so as to accommodate each department. Hot water is supplied, but the facilities are not adequate. The premises were fairly clean.

Care of prisoners. Two meals are served daily, prepared by an employed cook in the jail kitchen, and served to the prisoners individually. The hours of meals are 8 a. m. and 4 p. m. and 18 cents a meal is allowed. Bunks and blankets are used for bedding, which was in fair condition. The prisoners wash their own clothing in the jail and the blankets are washed in the back yard when deemed necessary. There is no hospital ward and no prisoners were under physician's care. There is no labor except the work around the jail and yard. Reading matter is furnished, and religious services are held every Sunday.

Management. The separation of those awaiting trial and those serving sentence is observed. The women are also separately provided for, but there is no matron. Prisoners are not kept in their cells. Children are kept in the basement of the courthouse under charge of the probation officer. There is also a separate place for the detention of insane. There are two jail employees, and discipline was found to be fairly good.

NAPA COUNTY.

D. A. DUNLAP, Sheriff, Napa.

Average number of prisoners in jail	10
Total number in jail during year	273

Construction. This jail is an addition to the courthouse, is of brick, old, and in bad condition. There are two departments and twelve cells, or steel tanks, arranged in two stories.

Sanitary conditions. The jail is dark, without sunlight. Electric lights are used, and heat is furnished by a stove. Ventilation is poor. The water supply is good, with five toilets, two bath tubs, and city sewer. The premises were fairly clean.

Care of prisoners. Three meals are served daily and cooked by prisoners on a stove in the cage and served on a table. The price allowed by the county is 35 cents per day. Bunks are used for sleeping, and bedding was fairly clean. The county physician responds upon call; no prisoners were sick. There is no labor except yard, and exercise is taken in the cage only.

Management. The prisoners are not classified and are not kept in their cells, the construction of the jail not admitting of either. Women are kept in a separate department. Insane are detained at the county hospital. The discipline is good. Napa County needs a new jail very badly.

NEVADA COUNTY.

H. R. WALKER, Sheriff, Nevada City.

JOHN R. MARTIN, Jailer.

Average number of prisoners in jail	7.5
Total number in jail during year	76

Construction. This jail is connected with and a part of the courthouse building, which is of brick and in fair repair. There are two departments of six and three cells, respectively, properly separated. The lower floor is furnished with steel cells, and the upper floor is divided into three rooms by means of wooden partitions.

Sanitary conditions. The light is not good and sunlight does not enter cells. Electric lights and stoves are used. Ventilation appeared to be fairly good. There is good water supply, with two toilets and sewer connections. A washtub is used for bathing purposes. The premises were fairly clean.

Care of prisoners. Two meals daily are furnished by a hotel and served at a congregate table at 8.30 a. m. and 4 p. m. Iron beds are used, furnished with blankets in fairly clean condition. The prisoners are required to wash their own clothing. There is no hospital ward, and no prisoners were under care of physician. No labor is required of prisoners in this jail. Reading matter is furnished, but no religious services are held.

Management. The legal classification in this jail is not observed. Women are kept separate, but are handled by male jailers. Prisoners are not locked in their cells, but associate together. Children are sometimes kept in the jail, but are properly separated. There is no provision for detained witnesses. Insane are kept in a room on the second floor of the jail. Discipline seemed to be fairly good.

ORANGE COUNTY.

THEO. LACEY, Sheriff, Santa Ana.

THEO. LACEY, JR., Jailer.

Average number of prisoners in jail	12
Total number in jail during year	619

Construction. The jail is a separate brick building in the courthouse yard and in good repair. There is one cage of six cells used for felony cases, and one large room without cells, used for prisoners serving sentence. In addition there are three strong rooms. In the basement there is a kitchen and dining-room.

Sanitary conditions. The light is good in daytime, but no sunlight enters cells. Electricity is used for lighting and stoves for heating. Ventilation is furnished by windows only, but the air seemed to be good. There is good water supply, with eight toilets and three bath tubs in good condition, with city sewer connections. The premises were clean.

Care of prisoners. In general two meals are furnished, but three are given to those who work. The meals are prepared in the jail kitchen and served to prisoners individually. Hours of meals are 7.30 a. m. and 3.30 p. m. The price allowed by supervisors is 15 cents a meal. Blankets and mattresses are used. The prisoners wash their own clothing in the basement, and blankets are also washed there. Clothing and bedding were fairly clean. There is no hospital ward and no prisoners on the sick list at the time of our inspection. In addition to the jail work, prisoners are worked at rock crushing. Twelve were thus employed and seven were doing jail work, three of them being employed in the kitchen. Reading matter is furnished, and religious services held every Sunday.

Management. Those awaiting trial are kept in a separate room from those serving sentence. Women are also properly separated and are not handled by male jailers. There is provision for detained witnesses, and insane are kept in a padded cell in the jail. Discipline appeared to be good.

PLACER COUNTY.

GEO. MCAULAY, Sheriff, Auburn.

Average number of prisoners in jail	35.5
Total number in jail during year	836

Construction. This jail is in the basement of the courthouse, a building of brick and stone in good repair. There are two departments, separated by a low partition, which still permits of talking from one department to the other. There is one cage of six cells used for felony cases. The other department consists of one large room with bunks arranged in tiers of three, after the manner of steamships.

Sanitary conditions. The light in daytime is poor, and sunlight does not enter. Electric lights and stoves are used. Ventilation is poor. There is good water supply, with two toilets and two bath tubs, with city sewer connections. Premises were clean.

Care of prisoners. In general two meals are furnished daily, but workers receive three. Meals are prepared by the sheriff and are served prisoners at a congregate table, 17½ cents a meal being allowed. Common jail bunks in the cage, and steamer bunks in the other room are used, furnished with blankets in fair condition. Washing is done by prisoners inside the jail. There is no hospital ward, and one prisoner was under the care of physician. Prisoners serving sentence are required to labor on roads and on the high school grounds. All those serving sentence were thus at work, except two who were excused on account of sickness. Good reading matter is furnished, and religious services occasionally held.

Management. Those awaiting trial and those serving sentence are kept in separate departments. There is no separate department for women, and they are handled by male jailers. In this jail a woman prisoner is kept in a cell in the same cage with the men, where conversation between them is freely carried on. Prisoners are not kept in their cells, but are allowed to associate together. Insane cases are either detained at the county hospital or in rooms outside, under guard. The jail work is done by sheriff, under sheriff, and deputy. Discipline was good.

RIVERSIDE COUNTY.

F. P. Wilson, Sheriff, Riverside.
H. F. Nelson, Jailer.

Average number of prisoners in jail	21
Total number in jail during year	277

Construction. This jail is a separate brick building located on the courthouse yard. There are in all eight departments, nearly all supplied with good steel cells, twenty-five in all.

Sanitary conditions. This jail is well lighted and some sunlight enters the cells. Electric lights are used and hot water heating system. There is a toilet in each cell in seven of the departments, in good condition, and there is a roll top enamel bath tub in each department. The premises were clean.

Care of prisoners. In general, two meals are given daily, but workers receive three. Meals are prepared in the jail kitchen by a prisoner cook and are served to the prisoners individually. Hours of meals are 8.30 a. m. and about 3.30 p. m., and the sheriff is allowed 12½ cents a meal. Hammocks and blankets are used for beds, and they were in fairly clean condition. The prisoners wash their own clothing in the jail, and blankets are sent out to a steam laundry. There is no hospital ward, and no prisoners were under the physician's care at the time of our visit. There is no labor for prisoners except the jail duties and work in the courthouse yard. Religious services are regularly held and good reading matter is furnished.

Management. There is good classification in this jail and it is observed. Prisoners are not, however, kept in their separate cells. Children are sometimes kept in the jail, but are properly separated from other prisoners. Separate provision is also made for detained witnesses, and there is a padded cell for the insane. Discipline was good.

SACRAMENTO COUNTY.

DAVID REESE, Sheriff, Sacramento.
E. W. JONES, Chief Jailer.

Average number of prisoners in jail	77
Total number in jail during year	1,264

Construction. This jail has been completed during the past year and is one of the best in plan and construction in this State, or in the country generally. It is located on the courthouse block. There are 11 departments, most of then containing 8 cells besides a bath cell.

Sanitary conditions. This jail is well lighted and sunlight can enter every cell during some part of the day. Electric lights are used at night. There is steam heat and good ventilation. There is a wash basin and toilet in each cell, with city water and city sewer connections. Each department is provided with bathing facilities. The jail throughout, corridors, halls, cages, and cells, was very dirty. It does not look as though it had been cleaned out since it was occupied. The floors are of concrete, and there is plenty of water and idle prisoners to do the cleaning, and there is no excuse for a dirty condition.

Care of prisoners. In general, two meals daily are served, but those who work get three. Hours of meals are 8 a. m. and 4 p. m. There is a jail kitchen, with prisoner cooks, and meals are served to the inmates individually. Prisoners wash their own clothing in the cage, though there is a laundry on the top floor for this purpose. Bunks with mattresses are used for beds. Bedding is washed in jail laundry. There is a good hospital ward, and the county physician responds when called. There were none on the sick list at time of our visit. Prisoners serving sentence are dressed in prison stripes and are worked on county roads and canals. Twenty were being worked, out of a total of eighty-seven.

Management. There is good classification in this jail and prisoners can easily be kept in their cells, but instead are permitted the use of the cage and associate together. There was a general air of disorder about the jail, and under the conditions it is doubtful if good discipline is maintained. There are two jailers, one day and one night. These are not enough, and probably one trouble is the lack of help.

SAN BERNARDINO COUNTY.

J. C. RALPHS, Sheriff, San Bernardino.

T. O. CARTER, Jailer.

Average number of prisoners in jail	84
Total number in jail during year	1174

Construction. This jail building is of brick and stone, located on a separate lot opposite the courthouse. Part of it is new and in good repair and part is old and not in good condition. There are five departments, one for felony cases, one for long term and one for short term prisoners, one for women, and one for boys. All of these departments are arranged with steel cages and cells.

Sanitary conditions. The light in daytime is fairly good, and sunlight enters some of the cells. Electric lights are used and hot water heating. There are fifteen toilets, many of them in not very good condition, and eight bath tubs in fair condition. Hot water is provided. The premises were fairly clean, but the overcrowded condition of the cages and cells prevented that cleanliness which ought to exist.

Care of prisoners. Two meals are furnished daily, prepared in jail kitchen by a prisoner cook, and served to prisoners individually. The hours of meals are 7.30 a. m. and 3 p. m. Hammocks and blankets are used for beds and were not extra clean. Each prisoner washes his own clothing in the cage, and blankets are washed in tubs in the jail. Of the 80 prisoners in the jail, none were under physician's care. There were in some instances four prisoners in a cell, and many bunks were laid in corridors and some on the top of one of the cages. At one time this winter there were 80 men in a cage of six cells. The jail yard is enclosed by stockade and prisoners serving sentence are required to work at breaking stone in this yard. We found about 40 men at this work. Other prisoners do the work of the jail. The women care for their own cells. Reading matter is furnished, and religious services are held.

Management. The legal classification is here observed and women prisoners are in charge of a matron. Prisoners are not, however, kept in their cells, largely owing to the overcrowded condition. Children are not now kept in the jail, and insane are detained at the county hospital. The discipline of the jail is good.

SAN DIEGO COUNTY.

F. M. Jennings, Sheriff, San Diego.

David S. Wilber, Jailer.

Average number of prisoners in jail	30.5
Total number in jail during year	401

Construction. The jail is a separate brick building located in the courthouse yard. There are five separate departments of 5, 5, 5, and 4 cells, respectively, and three rooms. Cells are of steel construction.

Sanitary conditions. This jail is fairly well lighted, and sunlight enters the cells. Both electricity and gas are used. Heating is by steam. The ventilation appears to be good. There is good water supply, with ten toilets and 6 bath tubs, and city sewer connections, all in good condition. The premises were clean.

Care of prisoners. Two meals a day are furnished prisoners generally, but those who work get three. Meals are prepared in the jail kitchen by a prisoner and served to the prisoners individually. The supervisors allow 37½ cents a day for meals, except in case of workers, who are allowed 20 cents a day additional. Hammocks are used in the cells. Prisoners wash their own clothing in the cage and blankets are sent to a laundry. One room in the jail is used as a hospital ward, and one prisoner was under physician's care at the time of inspection. Prisoners serving sentence work at rock breaking from 8 a. m. to 5 p. m. Nearly one half of the total prisoners were thus employed. Good reading matter is furnished and religious services are held.

Management. There is good classification in this jail and it is observed. There is a jail matron who has charge of female prisoners. Prisoners, however, are not kept in their cells. Insane are detained at the county hospital. There are two jail employees—jailer and matron. The jail appeared to be in good state of discipline. City prisoners are kept in this jail in a separate room, under the direction of the city police.

SAN JOAQUIN COUNTY.

W. F. Sibley, Sheriff, Stockton.

G. W. Shepherd, Chief Jailer.

Average number of prisoners in jail	40
Total number in jail during year	904

Construction. The jail is a separate building upon a corner about one block from the courthouse. The building is of brick, in good condition. There are three departments on different floors, for men. The basement floor has six cells and the two upper floors eight cells each, of masonry with steel grated doors. There is also a department for women with three cells, under supervision of a matron.

Sanitary conditions. The cells are dark and no sunlight enters. Electric lights are used, and heating is done by means of gas. There is a good water supply, with toilet in each cell, four good enamel bath tubs, and city sewer connections. The cells seemed to have good air, and the premises were clean.

Care of prisoners. Two meals daily are generally served, but those who work get three. A cook is employed, and meals are served to each prisoner individually. The supervisors allow 17½ cents for a meal per prisoner. There is a laundry in the basement and washing is done by the prisoners. Bunks furnished with mattresses and blankets are used. There is no hospital ward. The county physician visits the jail daily, and one prisoner was under his care. Prisoners are worked upon the roads and prison yard. Good reading matter is furnished, and religious services are held every other week.

Management. Separation of those awaiting trial from those serving sentence is had and women are under the care of a matron. Prisoners are kept in their cells and are not permitted to associate together. Insane are detained at a private hospital. Discipline is good.

SAN LUIS OBISPO COUNTY.

YANCY MCFADDEN, Sheriff, San Luis Obispo.

J. L. WALSH, Chief Jailer.

Average number of prisoners in jail	19
Total number in jail during year	337

Construction. This jail is located in the basement of the county courthouse, which is an old brick building. The jail is in poor condition. There is one department and four rooms. In the cell room proper there are two divisions of six cells each, one of steel and the other masonry.

Sanitary conditions. The light in daytime is very poor and no sunlight enters. Electric lights are used and heating is done by stoves and hot water. There is no ventilation except by windows, and the air in the jail is not good. There is fairly good water supply, with two toilets and one bath tub in fair condition, with city sewer connections. The premises were fairly clean.

Care of prisoners. Two meals are served daily and are prepared at the sheriff's house and served to prisoners individually. The hours of meals are 8 a. m. and 3 p. m., and 20 cents a meal per prisoner is allowed by supervisors. There are some iron beds in the jail and some hammocks are used, mattresses and blankets being furnished. The bedding was not very clean. Prisoners wash their own clothing in the jail and the blankets are sent out to laundry. One prisoner was under the care of the county physician at the time of our visit. There is no hospital ward. Prisoners work in the jail and on the courthouse yard, and exercise is taken in the cage. Reading matter is furnished, and no religious services are held.

Management. There is no separation of prisoners in this jail. A woman prisoner was found in a separate room, but male prisoners had access to the food opening in her door and could converse with her. There is no matron, and the woman was under the care of the male jailer. Prisoners are not kept in their cells. One room in the jail is used to detain insane. Discipline appears to be fairly good.

SANTA BARBARA COUNTY.

NAT STEWART, Sheriff, Santa Barbara.

J. R. JANSEN, Jailer.

Average number of prisoners in jail	23.5
Total number in jail during year	332

Construction. The jail is a separate brick building located near the courthouse and in good repair. There are three departments with nine cells in each, and four strong rooms. The cell room on the first floor has a cage with tool-proof steel, with space enough above for another tier of cells.

Sanitary conditions. The jail is fairly well lighted in daytime, although sunlight does not enter the first floor. Lighting is by electricity and heating by stoves, and the building seems to be fairly well ventilated. There is a good water supply, with three toilets and three bath tubs, city sewer connections, all in good condition. The premises were clean.

Care of prisoners. Three meals are furnished prisoners daily and are prepared in the jail kitchen by a prisoner, and served to the prisoners individually. The price allowed by the supervisors is 13⅓ cents a meal. Hammocks and blankets are used in the cells. Each prisoner washes his own clothing in the cage, and blankets are washed in the jail. There is no hospital ward, and one prisoner was under physician's care at the time of our visit. Prisoners work on the yard and public roads. Good reading matter is furnished, and religious services are held two or three times a week.

Management. Prisoners awaiting trial are not kept in a separate room from those serving sentence. Prisoners are allowed to associate together. Insane cases are detained in a room in the jailer's residence. Discipline appeared to be good.

SANTA CLARA COUNTY.

A. B. LANGFORD, Sheriff, San Jose.

H. M. BUFFINGTON, Jailer.

Average number of prisoners in jail	54
Total number in jail during year	419

Construction. The jail is a separate building located upon the same block with other county buildings. It is an old building and not in good repair. There are two departments of four and fifteen cells, respectively, and eight rooms. The cell construction is brick masonry.

Sanitary conditions. In some of the cells the light is sufficient for reading in daytime, but others are dark. Sunlight does not enter cells. Electric lights are used and the building is heated by steam. There are no ventilators except windows, and the cells do not have good ventilation. There is good city water supply, with eleven toilets in fair condition, and five bath tubs, also in fair condition, all connected with city sewer. The premises were fairly clean.

Care of prisoners. Two meals are served daily, at 9 a. m. and 3 p. m., prepared in the jail kitchen by a prisoner, acting as cook, and served to the prisoners individually. The beds consist mainly of mattresses laid on the concrete floor, and one blanket only is furnished each prisoner. The prisoners wash their own clothing in pails in the jail. There is a separate room for sick prisoners, but none were under the physician's care at the time of our visit. Three prisoners is the largest number confined in any one cell. There is no labor required except the care of the jail. Two women prisoners were folding and preparing circulars for mailing.. Reading matter is furnished and religious services are held.

Management. Those waiting trial and those serving sentence are kept in separate departments, and women are kept in a separate room upstairs, but are handled by male jailers. Prisoners are not kept in their cells, but are allowed to associate together. No children are kept in the jail. There is separate provision for detained witnesses and insane are detained at the Hall of Justice. Two jail employees, discipline good.

SANTA CRUZ COUNTY.

W. V. TRAFTON, Sheriff, Santa Cruz.

E. ALZINA, Jailer.

Average number of prisoners in jail	12
Total number in jail during year	253

Construction. The jail is a separate brick building on the courthouse yard, in good repair. There are three separate departments and four separate rooms. There are twelve steel cells.

Sanitary conditions. The building is fairly well lighted by day, but it is doubtful whether any sunlight can enter the cells. The cell house is lighted by a skylight. Electricity furnishes artificial heat and heating is done by means of stoves and steam. There are four toilets in good condition except one, and three bath tubs. There are four stationary washstands with running water. There is city water and city sewer connections. Premises were clean.

Care of prisoners. In general, two meals are served, but workers receive three. Meals are prepared in the jail kitchen by a hired cook and are served to the prisoners individually, 15 cents a meal being allowed. The jail beds are bunks furnished with blankets in fairly clean condition. Each prisoner washes his own clothing in the basement of the jail. There is no hospital ward. No prisoners were under the care of physician at the time of our visit. Prisoners serving sentence are worked at a rock crusher and at road making. This labor has been very successful the past year, as many as 18 prisoners having been worked at one time. Good reading matter is furnished.

Management. The legal classification is not practicable in this jail, but there is separate provision for women. Prisoners are allowed to associate together. No children are kept in the jail. There is a room in the basement where insane are sometimes kept, but more frequently in a room on the second floor. Discipline appeared to be good.

SHASTA COUNTY.

JAMES L. MONTGOMERY, Sheriff, Redding.

ALEX. LUDWIG, Jailer.

Average number of prisoners in jail	15.5
Total number in jail during year	210

Construction. The jail is a separate building of brick in good repair located on the courthouse square. There is one cage of four cells for felony cases, and one large room on the second floor, steel lined, without cells, for misdemeanants. There are two rooms and a dungeon of two dark cells, besides two rooms on the outside for detention of boys or insane.

Sanitary conditions. The light in the jail proper is poor and sunlight does not enter cells. Electric lights and stoves are used. Ventilation is not very good, and water supply is deficient. There are eight toilets, but the flushing is not good. There are also two bath tubs in fairly good condition. The corridors, halls, and toilets were in fairly clean condition, but the cage and cells were not very clean.

Care of prisoners. Two meals in general are furnished prisoners, but workers receive three. They are prepared at a hotel and served individually at the hours of 8.30 a. m. and 4.30 p. m., 18 cents a meal being allowed. Hammocks with blankets and mattresses are used for beds. The blankets are sent to a laundry for washing when necessary, and prisoners wash their own clothing inside the jail. There is no hospital ward, and four prisoners were under the care of physician. Prisoners are employed on the courthouse yard at piling wood and breaking stone. Good reading matter is furnished, but no religious services are held.

Management. Those awaiting trial are kept separate from those serving sentence. Women are properly separated, but are handled by male jailers. Prisoners are not kept in their cells. Children and insane are detained in rooms on the outside, but abutting the jail proper. There are two jail employees, and discipline appeared to be good.

SISKIYOU COUNTY.

CHARLES B. HOWARD, Sheriff, Yreka.

E. C. DUDLEY, Jailer.

Average number of prisoners in jail	8
Total number in jail during year	95

Construction. The jail is a separate stone building in good repair, located adjoining, and in the rear of, the courthouse. There are two departments of four cells and two cells, respectively, and two rooms.

Sanitary conditions. It is fairly well lighted and sunlight enters cells. Electricity is used for lighting, and stoves for heating. Ventilation is good. There is also good water supply, with two toilets and two bath tubs with city sewer connection. The bath tub in the cage corridor is in bad condition. The premises were clean.

Care of prisoners. Two meals are served daily, furnished by a hotel on contract at 20 cents a meal. Prisoners are served at a congregate table, the hours of meals being 8 a. m. and 12 noon; the prisoners save enough from the 12 o'clock meal for an evening luncheon. Hammocks with mattresses and blankets are furnished, and bedding was fairly clean. Washing is done by prisoners inside the jail. There is no hospital ward, and no cases were under physician's care. The cells in this jail are double, and two prisoners are kept in a cell. Work is required on the yard and about the building. Reading matter is furnished, and religious services are held occasionally.

Management. There is no separation of prisoners in this jail. They are not kept in their cells, but are allowed to associate together. Children are sometimes kept in the jail, but in a separate room. There is also a separate room for detained witnesses, and special arrangements are made at the county hospital for the detention of insane cases. There is one jail employee, and discipline seemed to be good.

SOLANO COUNTY.

J. J. McDonald, Sheriff, Fairfield.

E. W. Newman, Chief Jailer.

Average number of prisoners in jail	21
Total number in jail during year	372

Construction. This jail is a separate building, new and modern. It is built of reinforced concrete, has eight departments, four of six cells each, and four of three cells each, and two rooms. The cages are of flat bar construction, set edgewise. This is a model jail.

Sanitary conditions. The light by day is good and the cages get sunlight. The building is lighted by both gas and electricity, heated by steam. The water supply is not good. There is a wash basin and toilet in each cell, but the latter do not flush properly. There is city sewerage and plumbing is in good condition. There are four bath tubs and four showers, one in each cage, and hot water is provided for bathing. Premises were clean and in good sanitary condition, except toilets as mentioned above.

Care of prisoners. The prisoners are given three meals daily, of good variety and prepared in the jail kitchen, served individually in the cells. Fifty cents per capita daily is allowed for maintenance. The county furnishes shoes, underclothing, shirts, and overalls. Bunks are used, furnished with mattresses and blankets. All washing is done in laundry on the premises.

There is a good hospital ward. Only one prisoner is confined to a cell. No labor is required except upon the courthouse property. Prisoners exercise in cage corridor, are supplied with reading matter, and have religious services occasionally.

Management. This jail has all facilities for breaking up the congregate system, but prisoners are allowed to run together. Even a table and bench have been placed in the cage corridor to facilitate the social activities.

SONOMA COUNTY.

J. K. Smith, Sheriff, Santa Rosa.

C. H. Meyers, Jailer.

Average number of prisoners in jail	20.5
Total number in jail during year	499

Construction. The jail is a separate building of brick and is old. There are two departments with thirty-two cells and three rooms. The latter are on the second floor over the office. The building is unsafe.

Sanitary conditions. There is a skylight over the jail corridor, but sunlight can not get to cells. Electric lights and stoves are used. There are ventilators in the roof and the jail seems to have good air.

There are three water-closets and two bath tubs in fair condition, and located in each department. There is good water supply and city sewerage. The premises were fairly clean.

Care of prisoners. Two meals prepared on a stove in the jail are furnished and served to the prisoners individually. Hours of meals are 8.30 a. m. and 1 p. m. Price allowed by supervisors is 40 cents a day for first fifteen prisoners, 35 cents for second fifteen prisoners, and 30 cents thereafter. Washing is all done by the prisoners inside of the jail. Hot water is supplied, but washing facilities are poor. Iron bunks are used with blankets, which were found in fairly clean condition. The county physician comes upon call, and none were under his care at the time of our visit. At this time there was but one prisoner to a cell. There is no labor except inside of jail, and exercise must be taken in the cage. Reading matter is furnished, and religious services are held.

Management. Prisoners serving sentence and awaiting trial are not kept separate. They are kept in cells at night and associate together during the day. Insane are kept in a room, but conditions are not good. Discipline is good.

STANISLAUS COUNTY.

A. S. Dingley, Sheriff, Modesto.

Average number of prisoners in jail	8.5
Total number in jail during year	No report

Construction. The jail is in the basement of the courthouse, a brick building with wood interior, and in poor state of repair. There is but one room, with six cells or tanks.

Sanitary conditions. The light in daytime is poor and sunlight never reaches the cells. It is lighted by gas, heated by a stove and steam, with city water and sewerage. There is but one toilet. There is a shower bath in the corridor, but no hot water is provided. The prisoners were in a fairly clean condition.

Care of prisoners. Two meals daily are furnished, at 8 a. m. and 4 p. m., from kitchen on premises. Meals are prepared by hired cook. The county provides necessary clothing. Washing is done weekly by prisoners in the jail. The beds are steel bunks, and very good blankets are furnished. The county physician prescribes for sick prisoners and comes to the jail when called. There were nine sick at the time of our visit. There is no occupation except work on the courthouse yard, and no exercise except walking in the jail. Good reading matter is furnished. There are no religious exercises.

Management. It is impossible to classify prisoners in this jail. There is no separate place even for women. The insane are kept in the county hospital. Prisoners are not locked in the cells, but run together in the corridor. For punishment the prisoner is locked in his cell. A "kangaroo court" is permitted.

SUTTER COUNTY.

F. B. NOYES, Sheriff, Yuba City.

BENNETT SCHILLIG, Jailer.

Average number of prisoners in jail	.5
Total number in jail during year	61

Construction. The building is of brick and steel, located immediately in the rear of the courthouse. There are two cages of two cells each. The cells are of brick, lined with iron.

Sanitary conditions. The light is fairly good, though sunlight does not enter cells. Electric lights and stoves are used. Ventilation seemed to be fair. There is good water supply, with one toilet connected with a cess pool. There are no bathing facilities. Premises were clean.

Care of prisoners. Three meals are furnished daily, prepared by the sheriff and served individually. Price allowed is 20 cents. Iron bunks with quilts are used. The latter were not very clean. Prisoners wash their own clothing. There was but one prisoner in the jail, and he was in good physical health. No labor is required. Reading matter is furnished, but no religious services are held.

Management. Proper legal separation in this jail is impossible. There have been no women prisoners within the memory of the present jailer. Prisoners are not kept in their cells, but associate together. No children are confined in the jail. Insane are kept in a separate room. There is one jail employee. Discipline seemed to be good.

TEHAMA COUNTY.

JUD W. BOYD, Sheriff, Red Bluff.

W. T. STEVENSON, Jailer.

Average number of prisoners in jail	13.5
Total number in jail during year	214

Construction. The jail is a separate brick building in fair repair, located on the courthouse yard. There is one department of six cells and two rooms.

Sanitary conditions. This jail has fairly good light, though little sunlight enters the cells. Electric lights are used and heating is by stoves. The ventilation is from windows and seemed to be fairly good. There is good water supply, with three toilets and one good bath tub, with city sewer connections. Premises were clean.

Care of prisoners. Prisoners are served two meals daily, but workers receive three. Meals are prepared in the jail kitchen on the premises and served at a general table. Bunks furnished with mattresses and blankets are used. Prisoners wash their own clothing in the jail, also the blankets. There is no hospital ward, and one prisoner was under the care of physician. Prisoners are required to cut wood and perform work on the yard, and do the jail work, including cooking. Reading matter is furnished and religious services are occasionally held.

Management. Legal classification in this jail is not possible. Women, however, are properly separated, but are handled by male jailers. Prisoners are not kept in their cells, but allowed to associate together. Children are sometimes confined in the jail, but proper separation is not possible. There is no separate provision for detained witnesses. There are two padded rooms in the basement for the insane. Good discipline appeared to be maintained.

TULARE COUNTY.

W. W. Collins, Sheriff, Visalia.
D. H. Douglas, Jailer.

Average number of prisoners in jail	16
Total number in jail during year	No report

Construction. A separate building of brick, two stories high, located on a corner one block from the courthouse, constitutes the county jail. There are three cages, one containing four modern cells, the other two containing six and eight steel tanks, respectively. There are also two strong rooms on the second floor. The basement cage is used for city prisoners.

Sanitary conditions. The light is poor, and there is no sunlight in the cages. The tank cells are almost without light or ventilation. There is good water supply with toilet in each department, in fair condition. There is one bath tub and city sewer connections. The cages and corridors were in fairly clean condition.

Care of prisoners. Two meals daily are served to the prisoners individually, by a hotel, at 8 a. m. and 4 p. m., and 30 cents a day per prisoner is allowed by the supervisors. Iron beds with mattresses and blankets are used, the latter not very clean. The prisoners wash their own clothing in the jail and blankets rarely visit a laundry. The physician visits the jail when called. There is no hospital ward, and no prisoners were under physician's care at the time of our visit. The prisoners are generally idle, and some exercise is had in the corridors.

Management. The prisoners awaiting trial are kept separate from others. Women are kept in a separate room, but are handled by male jailers. Prisoners are not kept in their cells, but are allowed to associate together. The jail appeared to be under good discipline.

TUOLUMNE COUNTY.

WM. SWEENEY, Sheriff. Sonora.
W. H. SQUIRES. Jailer.

Average number of prisoners in jail	4
Total number in jail during year	85

Construction. The jail is a separate brick building in fair condition, located on a lot a short distance from the courthouse. There are three departments, properly separated, and containing ten cells.

Sanitary conditions. The light is poor and sunlight does not enter cells. Lighting is by electricity and heating by stoves. There is good water supply, with city sewer connections, five toilets in good condition, and one bath tub of zinc, in only fair condition. The premises were fairly clean.

Care of prisoners. Two meals are served daily, prepared by the sheriff's wife. Hours of meals are from about 8 a. m. to 5 p. m., and the price allowed is 20 cents a meal. The beds are of iron, furnished with mattresses and blankets in fairly clean condition. Washing is done by the prisoners in the jail. There is no hospital ward, and no prisoners were under physician's care. There is no occupation except the work of the jail. Reading matter is furnished, and religious services are seldom held.

Management. This jail does not provide for separation, and prisoners awaiting trial and those serving sentence are permitted to associate together. Children are not often placed in the jail, but if so, are properly separated. Insane are detained at the county hospital. The discipline appeared to be good.

VENTURA COUNTY

E. G. MCMARTIN, Sheriff, Ventura.
J. J. SALCIDO, Chief Jailer.

Average number of prisoners in jail	13
Total number in jail during year	228

Construction. The jail is a separate brick building located on the courthouse yard. This building contains one cell room with a cage of six cells and six strong rooms, besides the offices of the jailer. There has been recently built a separate detention home of concrete, one story high and containing three departments, one for insane, one for boys and one for women. This building is well arranged and is very satisfactory.

Sanitary conditions. The light in daytime is poor, and sunlight does not enter the cells. Electric lights are used and heating is done by means of stoves. There are ventilating flues in the cage and the cells seem to have good air. There is a good water supply, with two toilets and two bath tubs, and hot water is provided for bathing. There is city sewer and the plumbing is in fair condition. The premises were fairly clean.

Care of prisoners. The prisoners are given two meals daily, prepared by the jailer at his home and served individually. The hours for meals are 8 a. m. and 2:30 p. m., and the price allowed by supervisors is 25 cents a meal. Hammocks are used in the cage and cots in the rooms, and blankets are furnished for bedding, which were fairly clean. Washing is done in the basement of the jail and the prisoners wash their own clothing. There is no hospital ward. The rock crusher has been abandoned on account, it is said, of having too few prisoners to make it profitable to operate. The prisoners are now idle in jail. Reading matter is furnished, but there are no religious services.

Management. There is an effort made to separate the worst of the felony cases, and women are kept in a separate department, but there is no matron. Prisoners in the main cell house are allowed to associate together. Insane are kept in a detention ward in a separate building. There are two jail employees. The jail seemed to be under fair discipline.

YOLO COUNTY.

SAM MONTGOMERY, Sheriff, Woodland.

FRANK MURPHY, Jailer.

Average number of prisoners in jail	10.5
Total number in jail during year	91

Construction. This jail is located in the courthouse, a building of brick and stone in rather poor repair. There are three departments properly separated. On the first floor are five cells of wood lined with steel and in the basement are eight steel tanks. These are all in reality dungeons. The light is very poor and sunlight does not enter the cells. Electricity is used for lighting and stoves for heating. There is no ventilation. Water supply is good, with two toilets in poor condition, and one bath tub in good condition. There are city sewer connections.

Care of prisoners. Two meals are furnished daily, prepared at a hotel and served individually at 8 a. m. and 1 p. m., 15 cents a meal being allowed. The beds were mattresses, with blankets laid on the floors of the corridors. Prisoners wash their own clothing in the jail and blankets are washed in the yard. There is no provision for sick, and no prisoners were under the care of physician. There is no labor except on the courthouse yard. Reading matter is furnished, but there are no religious services.

Management. Prisoners awaiting trial and those serving sentence are kept together and allowed to associate together. There are no women prisoners. Children are not kept in the jail, and insane are detained in three separate padded rooms. There is but one jail employee. Discipline appeared to be good.

Conditions in this jail are very bad, and the county should early take steps to build a jail.

YUBA COUNTY.

GEORGE H. FOSS, Sheriff, Marysville.
H. M. LYDON, Jailer.

Average number of prisoners in jail	22
Total number in jail during year	140

Construction. There is one jail building on the courthouse yard near the courthouse. This building is old and badly out of repair. It contains fourteen steel cells on the lower floor and six wooden cells in rooms on the second floor. The basement of the hall of records is another jail room, with a good steel cage, used for felony cases. This room is in good condition.

Sanitary conditions. The light in both of these jail buildings is poor and sunlight does not enter. They are lighted by electricity and heated by hot water system. One of these jail rooms seems to have good air, but the ventilation in the others is poor. There is good water supply, with three toilets and city sewer. Prisoners confined in the old building are required to use a washtub for bathing purposes. In the new building there is a good bath tub. The premises were fairly clean.

Care of prisoners. In general, two meals are served daily, but those who work are given three. Hours of meals are 8 a. m. and 5 p. m. Blankets in fairly clean condition are used for bedding. Prisoners are required to do all the washing inside the jail. There is no hospital ward, and no prisoners were under the care of physician. Prisoners are required to labor upon public works, and at the time of our visit were engaged upon the county hospital grounds. Good reading matter is furnished, but no religious services are held.

Management. Prisoners awaiting trial are kept in a separate room from those serving sentence. Women are also separately provided for, but there were none at the time of our visit. Prisoners are not kept in their cells. Insane are detained at the county hospital. Discipline appeared to be good.

THE COUNTY HOSPITALS.

We are pleased to note improvements in some of our county hospitals since our last report. Contra Costa County has built a new building, arranged and equipped for regular hospital work. This county has a long water front, and its old buildings have been so overcrowded with cases of accident and disease that proper care was difficult. The new building will fill a pressing need. The supervisors of San Francisco have constructed upon the Almshouse tract a group of three buildings, to be used temporarily for the city and county hospital, but after the new hospital is built, these buildings will become a part of the Relief Home now on this tract. They are excellent buildings. The city and county hospital now being constructed will, when completed, be a credit to the city.

Many of these county institutions are doing good hospital work. They have good operating rooms, nurses, and a physician in charge. Some of them are doing work equally as good as the private hospitals. Many of them, however, are merely homes for indigents—almshouses. In some of them the care is not as good as desired. Too little help is employed to keep the rooms and patients in clean condition. This is especially true of some of the mountain counties, where placer mining was in the past a prominent industry. These hospitals are filled with old miners, whom old age and sickness has brought to want, and having never married, have no families to whom to look for assistance. Some of these inmates have been once prominent in the business and political life of the county. We have met among the inmates of county hospitals former judges of courts, county supervisors, and other county officers. These inmates, many of whom have helped to develop their respective counties and the State, are now deserving of better treatment at our hands. We have noted on the part of some superintendents a tendency to be too arbitrary and rigid in enforcing rules of conduct for these men. They should be spared the humiliation of being "bossed," except when bad conduct calls for restriction.

To boards of supervisors contemplating the establishment of county hospitals, we suggest:

First—That a location be chosen near the county seat and one that is easily accessible.

Second—That the farm be of good land, but not large. From ten to forty acres of good land is sufficient. The farm must not be expected to produce an income, but only to furnish necessary supplies.

Third—The buildings should provide a residence for the superintendent separate and apart from the inmates; separate quarters for both sick and surgical cases; an operating room and drug room; private rooms for cases needing isolation; separate and isolated quarters for the tuberculous and also for cases of contagious diseases; special accommodations for the paralytic and permanently disabled; and suitable rooms for the old people who are able to help themselves, including a smoking room and a day room. There should be a complete separation of the sexes.

The statistics for the last two years show that more than 40,000 persons entered our county hospitals and that more than 32,000 went out, besides nearly 6,000 deaths and 1,000 sent to other institutions. The net increase for the two years in the number present was only 303. These statistics demonstrate better than words can tell the work our county hospitals are doing for the temporarily sick and injured poor.

ALAMEDA COUNTY.

W. A. CLARK, M. D., Superintendent, San Leandro.

Average number of patients	396
Total number for the year	1,928

The farm. There are in the hospital site 126 acres, located in the foothills at San Lorenzo. The greater portion is in pasture, although there is some garden land. There are kept upon the place 46 cows, mostly thoroughbred, and many of them registered Holsteins. This is an exceptionally good dairy herd, purchased since our last report at a very moderate price. There are also 6 horses, about 300 hogs, and from 300 to 400 chickens. The general condition of the stock is good. The dairy barn is comparatively new and in excellent sanitary condition. It is one of the cleanest dairy barns we have ever seen. A milking machine is used.

The hospital. There is a central building of wood, two stories high, in which are the offices, operating room, and wards for sick and surgical cases. This building is in fairly good condition and is well kept and managed. The indigent cases are kept in older buildings, scattered over the premises. Some of them are too old for use. About 30 tents are also used for patients. A separate cottage is provided for the superintendent and also one for the steward. The premises are well lighted. Steam heat is used in the main building. Some of the outer buildings are heated by stoves, and the tents have no heat at all. There is good water supply and sufficient toilets and bathrooms, and a private sewer extends from the hospital buildings to the bay. Bathing is regularly required and good facilities are provided. The premises are generally well kept, and were found in a clean, sanitary condition.

Care of patients. There is an excellent operating room, well equipped. Regular hospital cases are accepted and treated separately from custodial cases. Insane patients in this county are provided for in a separate detention hospital. There is a separate building for women, under care of a matron. The superintendent is a practicing physician, and an interne is also employed. There are three graduate nurses and ten student nurses, and the hospital patients receive good care. Three meals are furnished daily. Good iron beds are used in the main, though the premises are greatly overcrowded, and in many instances folding cot beds have to be used. Many of the indigent inmates are compelled to occupy tent wards on the outside, because of the lack of buildings. The overcrowded condition at this institution is worse than at any of the county hospitals of the State. At the time of our visit there were present 463 patients, and there are not sufficient good accommodations for more than 300.

Management. The superintendent receives a salary of $250 per month, and the total monthly pay roll amounts to $2,000.

BUTTE COUNTY.

M. C. Copeland, Superintendent, Oroville.
W. F. Gates, M.D., County Physician.

Average number of patients	64
Total number for the year	415

The farm. This consists of 104 acres, of which one fourth acre is in garden, 2 in olives, 16 in oranges, 6 in hay, and the remainder in pasture and building site. The stock consists of 6 cows, 3 horses, and 22 hogs, in good condition. There is a barn and hog house, also in good condition, and the farm and buildings showed good management.

The hospital. The hospital building is a large brick structure, two stories high, with porches and verandas around it. It is in good repair and has been much improved since our last visit. A new hospital ward has been built, which is excellent in every particular. There are five wards and five rooms for male patients, and five rooms for female patients, besides three cottages outside. The superintendent has six rooms and other employees two. The buildings are lighted by electricity and have steam heat. The water supply is private and good, water pressure for fire protection being 100 pounds to the inch. Water for irrigation is obtained from the Oroville Water Company. Water-closets and bath rooms are conveniently located and in good condition. The sewerage runs into a rear field.

Care of patients. There is a good operating room, well equipped. Pay patients are received at a charge of $15 a month, and there is a detention ward for insane. Physician visits the hospital daily. Two nurses are employed, one being a graduate. Patients seemed to be well cared for. Beds are good and bedding was clean. There is no occupation for patients. Reading matter is furnished.

Management. The superintendent receives $100 per month for the services of himself and wife, and the total pay roll is $330 a month. The county physician receives a monthly salary of $62.50.

COLUSA COUNTY.

James A. White, Superintendent, Colusa.,
George J. Casson, M.D., County Physicialn.

Average number of patients	26.5
Total number for the year	134

The farm. The site contains 38 acres of land, of which 4 are in garden, 6 in orchard, 19 in crops, and 4 in pasture. The stock consists of 7 cows, 2 horses, 10 hogs, and 150 chickens, all in good condition. There is a barn in only fair condition.

The hospital. There is a central building, two stories high, for residence and offices, back of which is a long covered corridor connecting four other buildings, one story in height, one of which is for kitchen and dining-room and three for patients. Buildings are all of wood and in good condition. There are three wards. Lighting is by acetylene gas and heating by stoves. Water is furnished by a well and tank, but fire pressure is not good. There are two bath tubs and two toilets inside, and an old outhouse. Sewerage runs back into a field. Premises were clean.

Care of patients. Since our last visit a good operating room with good tables has been provided. Pay patients are received at a charge of $20 per month. The physician visits hospital when called, and no nurses are employed. A steward and matron look after the patients. Two meals and a cold lunch are served daily. Some of the beds were good, other were not. Sheets and pillows are used and were fairly clean. Washing is done by laundry on premises. Some work is done by patients on the grounds. Reading matter is supplied. No religious services are held.

Management. The superintendent receives $50 per month and the total monthly pay roll is $205. The county physician receives $75 per month.

CONTRA COSTA COUNTY.

W. H. Hough, Superintendent, Martinez.

Dr. A. W. Ricky, Physician.

Average number of patients	74
Total number for the year	368

The farm. There are but 7 acres of land. A small garden is kept and about one acre is in orchard. Thirty acres of pasture are rented. There are kept 12 cows, 1 horse, 6 hogs, and 250 chickens, all in good condition. The barn is in fair condition.

The hospital. There are five buildings of wood, one story in height, arranged in a semicircle. The buildings are in poor condition, separated by less than twenty feet from each other, and with no fire protection. There are five wards, five rooms, and two tents for patients, and a separate cottage for the superintendent. A new hospital building is in contemplation, and is badly needed. The buildings are lighted by electricity and heated by stoves, provided with good water supply and connected with city sewerage. Bathing and toilet facilities are adequate and conveniently located. The premises were found in fair sanitary condition.

Care of patients. There is an operating room with fair equipment, and pay patients are received at $1 per day. The physician makes daily visits. Three nurses, one graduate, are employed. Patients appear to be well fed and clothed, and to receive good care. No labor is required except house and yard work. Good reading matter is furnished, but no religious services.

Management. The salary of the superintendent is $100 per month, with maintenance. The total monthly pay roll is $380. The county physician receives $100 per month and resides at Port Costa.

DEL NORTE COUNTY.

A. B. Moorhead, Superintendent, Crescent City.

E. M. Fine, M.D., County Physician.

Average number of patients	13.5
Total number for the year	22

The farm. This consists of about 160 acres of land, of which 1 acre is in garden, 4 in field crops, and a small orchard. The remainder is in pasture and practically unused. The general quality is poor. The stock consists of 8 cows, 1 horse, 3 hogs, and 85 chickens, in fair condition. The barn is in bad condition. The roof leaks and the sides are open and need battens or new boarding.

The hospital. This consists of three buildings and several old shacks. All are of wood, one story high, and in poor repair. There is one ward and ten rooms for patients, and seven rooms for the superintendent and family. Lamps are used for lighting and stoves for heating. There is private pump and tank for water supply, which gives fair fire pressure. There are five water-closets, two inside and three outside, and one bath tub. This is insufficient. It is old, of tin, and located off the laundry. A new tub should be installed in connection with the men's ward. Sewerage runs into a cess pool. There seems to be no objection to running sewer into a creek which runs into the bay, which would be much more desirable. The premises were clean.

Care of patients. There is no operating room. Pay patients are sometimes received, but no regular rates have been established. There is a padded room for the insane. This is located in a separate building in good condition. Beds are fairly good. Sheets are furnished for the women and blankets for the men. Washing is done in a hand wash house when thought necessary. Not much labor is performed by patients, not as much as should be required. Patients are furnished three meals a day. We were present at the dinner hour and found a good wholesome variety, well prepared and well served. Reading matter is furnished, but there are no religious services.

Management. The superintendent receives $100 per month for his services and those of his wife. Outside of this, a cook only is hired at a salary of $25 per month.

Some trouble is given the superintendent at this hospital by patients going to town and getting drunk. It seems that the supervisors do not properly support the superintendent in the maintaining of discipline. It would be better for the supervisors to sell the unused land, in fact all but about 40 acres, and use the proceeds in repairing the buildings.

FRESNO COUNTY.

DR. GEORGE H. BLAND, Superintendent, Fresno.

DR. G. M. SAMPLE, Physician.

Average number of patients	177
Total number for the year	1,040

The farm. There are 80 acres of land, of which 70 are in alfalfa. The quality is fair. The stock consists of 20 cows, 3 horses, 50 hogs, and 150 chickens, in good condition. There is a farmer's residence in poor condition, and a good barn.

The hospital. There is a general hospital building built of concrete on the Mission style, and a separate almshouse building. Both are nearly new and in excellent condition. Babcock extinguishers, besides a good water system, furnish protection against fire. There are twenty-seven rooms for patients and two for the superintendent. The buildings are lighted by electricity and heated by steam. The water supply is good. There are ten water-closets and ten bath tubs located in separate rooms, connected with the wards, and city sewerage connections. The premises were clean and in good sanitary condition.

Care of patients. There is a good operating room, well equipped. Pay patients are received at from $7.50 to $10 per week. The physician visits the hospital daily. Two male and five female nurses are employed, of whom four are graduates.

There are separate kitchens for the hospital and the almshouse and three meals are given daily. Patients appear to be well fed, well clothed, and well cared for.

A good laundry is maintained on the premises. Each patient in the almshouse is provided with a table, chest, and chair, in addition to the bed. No labor is required except house and yard work, and indigents who are able are required to assist in this.

Management. The superintendent receives $100 a month and maintenance. The total monthly pay roll is $715. The salary of the county physician is $133 per month, and he resides in Fresno.

GLENN COUNTY.

M. E. La Grande, Superintendent, Willows.

C. W. Lund, M.D., County Physician.

Average number of patients	16.5
Total number for the year	128

The farm. There are 20 acres of land, of which 6 acres are in alfalfa and 12 pasture. There is a small garden and no orchard. The stock consists of 6 cows, 1 horse, 3 hogs, and 50 chickens, all belonging, however, to the superintendent. There is a small barn in fair condition.

The hospital. There is one good sized building, of wood, in bad condition. There are two wards and eight rooms for patients, and four rooms for superintendent and employees. Water comes from private well and tank. There is fire hose, but not sufficient pressure. There are electric lights and heat is furnished by fireplaces. There are four toilets and three bath tubs. The sewerage is into a slough about 100 feet from the buildings and is very unsanitary.

Care of patients. There is a poor operating room, supplied with a chair. No pay patients are received. A padded room in an outside building has been provided for insane. No nurses are employed. Three meals daily are furnished and patients appear to be well fed and well clothed. Sheets, pillows, and blankets are provided, and were in clean condiiton. Some labor is performed on the yards by patients. Reading matter is provided and religious services are occasionally held.

Management. The superintendent receives $65 a month, and $12.50 a month for the board of each patient. He furnishes his cooking utensils, dishes, etc.

This place should be thoroughly overhauled. It needs new plaster and paint inside. The fireplaces should be pulled out, as they are very expensive to maintain. The sewer should be fixed.

HUMBOLDT COUNTY.

D. H. McFarlan, Superintendent, Eureka.

Drs. C. C. and C. O. Falk, County Physicians.

Average number of patients	No report
Total number for the year	No report

The farm. The site consists of 20 acres located in the city of Eureka, of which 3 are in garden, 4 in potatoes, 9 in hay, and 4 in pasture. The stock consists of 6 cows, 2 horses, 6 hogs, and 50 chickens. The barns are commodious and in good condition.

The hospital. This consists of an imposing central building with wings extending to the rear. The front portion is two stories high and wings one, all built of wood and in good state of repair. There are seven rooms and four wards for patients, six rooms for the superintendent, and five for officers and employees. The building is lighted by electricity and heated by steam, stoves, and grates. The water supply is private well and tank, and is sufficient for house purposes. There are sufficient water-closets and bathrooms conveniently located in good condition. The premises were clean.

Care of patients. There is a good operating room with good equipment. No pay patients are received. One of the county physicians visits the hospital every other day, and oftener if necessary. Two nurses are employed. Three meals are furnished daily, and the patients seemed to be well fed and well cared for. Good iron hospital beds are used, which have springs, pillows, sheets, and blankets. The bedding was clean. Washing is done in a laundry on the premises. A number of patients work in the yard and grounds. Good reading matter is furnished, and religious services are held.

Management. The superintendent receives a salary of $45 a month, and his wife receives a similar salary as matron. The total pay roll is $355 per month. Since our last visit a new well has been bored, which furnishes plenty of water, and the operating room provided with new instruments at a cost of $160 and an operating table at a cost of $25.

KERN COUNTY.

F. Buckreus, Superintendent, Bakersfield.

Dr. A. F. Schaeffer, Physician.

Average number of patients	55
Total number for the year	673

The farm. There are but six acres of land in this hospital site. There is a small garden and about 3 acres of orchard. But 2 cows and about 50 chickens are kept.

The hospital. This consists of a central building, two stories high, with wings extending from each side, one story in height, all of wood. There are five wards and four rooms for patients, and rooms for the superintendent, matron, and other employees. The buildings are lighted by electricity, heated by steam, have good water supply, with fire protection and city sewer. There are twelve toilets and sufficient bath rooms, all conveniently located. The premises were in clean, sanitary condition.

Care of patients. There is an operating room with good equipment. Hospital cases are accepted, but no pay patients. The physician visits the hospital daily, and four experienced nurses are employed. Three meals daily are served. The clothing of patients was in good condition, and they seemed to have good care. A new solarium, the gift of Hon. Truxton Beale, has been built. Reading matter is furnished, and religious services are held. Since our last visit a pavilion for the tuberculous and a ward on the west end of the main building have been built. Also boiler house and boiler.

Management. The superintendent receives $112.50 per month, and the monthly pay roll is $512.50. The county physician, as such, also receives $100 per month.

KINGS COUNTY.

B. W. Moore, Superintendent, Hanford.

Dr. W. B. Charles, Physician.

Average number of patients	10
Total number for the year	60

The farm. The site consists of 10 acres of poor alkali land, on which is a little garden and a few fruit trees. Three cows, 1 horse, and 300 chickens are kept. There is a barn and chicken house in good condition.

The hospital. There is a central building and one detached building, both of wood, one story in height. There are ten rooms for patients and a separate cottage for the superintendent and family. The buildings are lighted by acetylene gas and heated by stoves. There is water sufficient for domestic uses but no fire protection. There are three toilets, two inside and one outside, and two good roll top enamel bath tubs. The premises were in good sanitary condition.

Care of patients. There is an operating room with good equipment. No pay patients are received. The physician visits the hospital about three times a week. No nurses are employed. Three meals are furnished daily, and patients appear to be well fed and well clothed. Good iron spring beds are used, with good clean bedding, but the other furniture is limited. Reading matter is furnished, and sometimes religious services are held.

Management. The superintendent receives $75 per month, and the cook $30. There are no other employees. The county physician receives a salary of $80 per month. This county is planning a new hospital.

LOS ANGELES COUNTY FARM.

ANDREW F. WADE, Superintendent, County Farm.

CARLTON S. ALLEN, M.D., Resident Physician.

Average number of patients	209.5
Total number for the year	428

The farm. There are in this farm 378 acres of good land, of which 8 acres are in garden, 32 in oranges, 190 in field crops, and the remainder in pasture. There were 135 cows, 17 horses, 225 hogs, and about 2,000 chickens, all in good condition. The farm buildings are in good condition and the farm shows good management and is profitable to the county.

The hospital. There are four buildings of brick located around a hollow square. The front building contains the superintendent's residence and offices, the rear one the kitchen and dining-room, and the two on the sides are for male patients. The women occupy a separate building across the roadway. There is also a very excellent brick building of fifty-two rooms for demented and chronic insane, in charge of a man and his wife. There are electric lights, both stoves and furnace heat, good water supply and sewerage, and good toilet and bathing facilities. The premises and buildings were in good sanitary condition.

Care of patients. There is an operating room, not well equipped. The county maintains a separate hospital for the sick. There is a resident physician and three nurses. Washing is now done outside, but a laundry is to be built. The beds were good and clean. Books and periodicals are supplied, and religious services are held in a chapel on the premises.

Management. The salary of the superintendent is $140 a month, the resident physician receives $100 a month, and the total pay roll is $975 per month. In addition, many day laborers are employed on the farm.

MADERA COUNTY.

J. M. HENSLEY, Superintendent, Madera.

DR. W. C. REED, Physician.

Average number of patients	40
Total number for the year	144

The farm. This consists of 40 acres of good land, of which 14 are in alfalfa, 7 in garden and 1 in orchard. The stock consists of 6 cows, 2 horses, 5 hogs, and 300 chickens, all in good condition. There is a barn and chicken house, both in good condition.

The hospital. There is a central building with wing extending to the rear, one story and high basement used for wards for patients, built of wood, in a fair state of repair. There is a private water system with water at fair pressure for fire protection. There are six rooms for patients and three for the superintendent. Lamps are used for lighting and stoves for heating. There are five water-closets and six bath tubs, conveniently located and in good condition. Sewerage runs into a cess pool at a safe distance from buildings. The premises were clean and in good sanitary condition.

Care of patients. There is an operating room provided with table only. Pay patients are received at a charge of $10 per week. The physician visits the hospital daily and one graduate nurse is employed. Three meals daily are furnished, and patients appear to be well fed and clothed. Washing is done in wash house on the premises. Those able are required to work in garden and yard and house. Good reading matter is provided and representatives of the churches hold religious services.

Management. The superintendent receives $75 per month and maintenance. The pay roll is $225 a month. The county physician receives $100 a month, and resides in Madera.

This place shows many improvements since our last visit.

MARIPOSA COUNTY.

A. B. TURNER, Superintendent, Mariposa.

DR. F. A. GALLISON, County Physician.

Average number of patients	25.5
Total number for the year	47

The farm. The site comprises 15 acres in the town of Mariposa. There is a half acre of garden, a half acre of orchard, and the remainder is pasture. The stock consists of 3 cows, 1 horse, 2 hogs, and 70 chickens. The farm buildings consists of two barns and a chicken house in fair condition.

The hospital. This is a large two-story building of wood, built for a private sanitarium. A smaller building in the rear is used for residence of superintendent and kitchen and dining-room. There is a detached day room for men. There are twenty-five rooms for patients. Candles are used for lighting and stoves for heating. Water supply is from a spring and is sufficient for domestic use. There are four toilets inside and two outside of building. The sewerage into creek has caused complaint, and inside toilets are not now used.

Care of patients. There is an operating room with poor equipment. No pay patients are received. The physician visits the hospital at least every other day. There are no nurses and the general care of patients is not what it should be. Two meals are served daily. I saw dinner served and it was better than I received at the hotel. No sheets or pillow cases are used on beds, and blankets and quilts were not very clean. There is a washhouse, but it is not a good one. There is no labor except that one patient at least works on garden. There was but little reading matter, and no religious services.

Management. The superintendent and wife receive $314 per month for feeding and caring for the men, and $14 a month in addition for each woman. The arrangement is not to be commended.

MENDOCINO COUNTY.

George Lambert, Superintendent, Ukiah.
Dr. J. Liftchild, Physician.

Average number of patients	76
Total number for the year	149

The farm. There are 140 acres, of which 1½ acres are in garden, 3 in orchard, 6 in vines, and the remainder in pasture and timber. There were on the place 6 cows, 2 hogs, and 100 chickens, in good condition. There is a small barn in fair condition.

The hospital. This consists of six separate buildings, of wood, one story high, in poor repair. There is a separate cottage for the superintendent. A new refectory building, with patients' dining-room, kitchen, pantry, meat room, cook's room, etc., has been built since our last visit. Buildings are lighted by electricity and heated by stoves and fireplaces. The water supply is good, and there is private sewer and fair fire protection. Toilet facilities are fair, but there is but one bath tub for the use of 79 men. The fireplaces are expensive and should be torn out.

Care of patients. There is no operating room and only indigents are accepted. The physician visits the hospital at least once daily, and one experienced nurse is employed. The patients seem to have fair care and good food and clothing. The furniture is poor and beds in fair condition. Work is required on the place of those who are able. Reading matter is furnished and religious services are held by the churches.

Management. The superintendent and wife receive $70 per month, and the monthly pay roll is $155. The county physician receives $75 per month and resides in Ukiah.

MERCED COUNTY.

G. W. Ford, Superintendent, Merced.
J. A. Mudd, M.D., County Physician.

Average number of patients	32.5
Total number for the year	239

The farm. The site consists of but 10 acres, of which 7 are in hay and 3 in building site. The stock consists of 2 cows and 80 chickens.

The hospital. This is an excellent building in the Mission style of architecture. The center is two stories and the wings one story. It is of brick covered with cement plaster, nearly new and in good condition. There are four wards and ten rooms for patients, six rooms for the superintendent, and three for employees. The building is lighted by electricity and heated by steam. There is a good water supply, with good fire pressure, seven good roll top enamel bath tubs and four water closets, with city sewerage. The premises were clean and in good sanitary condition.

Care of patients. There is a good operating room, well equipped. Pay patients are received and charged $1.50 per day. The physician visits the hospital at least once daily. One regular and two assistant nurses were employed at the time of our visit. Three meals are furnished daily and patients seemed to be well cared for. The beds were good, well furnished, and clean. Washing is done in laundry on the premises. No labor is required. Reading matter is furnished and religious services are held on Sundays.

Management. The superintendent receives $85 per month, and the total pay roll is $330 a month. The county physician receives $50 a month.

MERCED COUNTY BRANCH HOSPITAL.

C. F. Wade, M.D., Superintendent, Los Banos.

Average number of patients	12
Total number for the year	99

This hospital is located in the western part of the county. It is a comfortable farmhouse, situated on ten acres of land. The house is small, one story in height, and is built of wood. The conditions are not good, but the inmates seem to be contented and well cared for.

MONTEREY COUNTY.

HENRY A. HUNTER, Superintendent, Salinas.

S. P. GORDON, M.D., County Physician.

Average number of patients	49
Total number for the year	179

The farm. This consists of 70 acres of land, of which 12 acres are in garden, 1 in orchard, and 55 in field crops. There were on the farm 10 cows, 3 horses, 18 hogs, and about 150 chickens, in good condition. There were two barns in good condition.

The hospital. There is one central building, of wood, two stories in height, with twenty-two sleeping rooms and a day room for patients, and seven for superintendent and employees. The building is lighted by lamps and candles, heated by stoves, has private water supply, and Babcock extinguishers for fire protection. There are four toilets inside and one outside, and four bath tubs. Sewerage is into a low field. There are also some old buildings outside, occupied by patients. These are not satisfactory. The premises were clean and the yard especially was deserving of praise.

Care of patients. The operating room is not well equipped. Only indigent cases are accepted and insane are cared for at the county jail or courthouse. The county physician visits the hospital every other day. One experienced nurse is employed. Three meals are served daily. There is a laundry, and clothing and bedding were in clean condition. Patients perform some labor about the house and farm. Reading matter is furnished and religious services are held occasionally.

Management. The superintendent receives $100 a month for the services of himself and wife. There are employed a nurse, two cooks, dishwasher, milkman, farm hand, and night watchman. The total monthly pay roll is $310. The county physician receives $125 a month.

NAPA COUNTY.

E. L. WEBBER, Superintendent, Napa.

DR. ADOLPH J. KAHN, Physician.

Average number of patients	43
Total number for the year	162

The farm. There are but 12 acres of land, of which 1 is in garden, and 8 in field crops. This is an improvement over previous years. One cow and 1 horse are kept, with 110 chickens. There is a barn and poultry house in good condition.

The hospital. There are two buildings, both of wood. One is one story high, used for hospital cases, and the other two stories high, used for indigent cases. The superintendent is furnished a separate cottage.

There are about twenty rooms for patients. An acetylene gas plant furnishes light, and stoves are used for heating. There is good water supply, with good fire pressure. Fire extinguishers and hand grenades are also conveniently placed for fire protection. There are seven toilets in good condition, conveniently located, and but two bath tubs, one roll top and one an old tin one. Better facilities for bathing are badly needed. Septic tanks are used for sewerage. The premises were in clean condition. The yard showed much improvement.

Care of patients. There is an operating room with good equipment except sterilizer. Pay patients are received, but no rate has been fixed. The physician visits the hospital daily. No regular nurses are employed. The patients are furnished two meals daily, are well clothed, and seem to be well cared for. The beds are many of them poor, and the other furniture is not adequate. Reading matter is furnished, and religious services held.

Management. The superintendent gets $105 per month. The only other employee is a cook at $45 a month. The county physician gets $900 per annum, and furnishes medicines.

NEVADA COUNTY.

George W. Stewart, Superintendent, Nevada City.
H. Tickel, M.D., County Physician.

Average number of patients	66
Total number for the year	156

The farm. This consists of 45 acres. A tract of 40 acres has been purchased the past year. There are 5 acres in garden, 2 in orchard, about 20 in hay crop, and the remainder in pasture. The stock consists of 13 cows, 42 hogs, and about 200 chickens. The farm buildings were on the land when purchased and are in only passable condition.

The hospital. There is one central building, of wood, two stories high, in fairly good repair. There is good water pressure with monitors conveniently located for fire protection. There are six rooms or wards for male patients, and three for female patients. Electric lights and steam heat are used. There are two toilets inside of the buildings, and one outside. There are in all four bath tubs. The sanitary conditions were fairly good.

Care of patients. There is an operating room with good equipment except sterilizer. Pay patients are accepted at rates of $20 per month upward. The patients who work receive three meals daily, and the others two. Good cotton table cloths are used on dining tables. The beds are good iron hospital, and the bedding good and clean. A new laundry with modern machinery has been built. Some of the patients work about the house, on the yard and farm. A pine grove furnishes a fine recreation ground. Good reading matter is furnished and religious services held on Sundays.

Management. The superintendent receives a salary of $100 per month. A matron is now employed at a salary of $40 per month. The total pay roll is $290. The county physician also receives $125 per month.

RIVERSIDE COUNTY.

F. D. PETTIS, Superintendent, Arlington.

W. W. ROBLE, M.D., County Physician.

Average number of patients	44
Total number for the year	286

The farm. This consists of 42 acres of very good land under irrigation. The superintendent and wife were both away at the time of our visit and we were unable to get the farm details.

The hospital. There is a central building, of wood, two stories high. In this building are rooms for the superintendent, officers, and nurses, and five wards and four rooms for patients. There is a cottage for men, another for women, and another for tuberculous cases. The buildings have electric lights, steam heat, and a good water system, with fire pressure. There are five good bath tubs and sufficient water-closets conveniently located, and sewerage is carried to a cesspool. The premises were in good sanitary condition.

Care of patients. There is a well equipped operating room and regular hospital cases are accepted at a moderate charge. The matron is a graduate nurse, and five student nurses are employed. The physician visits the hospital daily. The patients appear to be well fed and well clothed. The beds are good. A laundry is maintained on the premises. Some labor is performed by patients in the house and on the premises. Good reading matter is furnished and religious services are provided by various churches.

Management. Owing to the absence of the superintendent, the details of management could not be ascertained.

SACRAMENTO COUNTY.

J. L. WHITE, Superintendent, Sacramento.

J. B. HARRIS, M.D., Resident Physician.

Average number of patients	237
Total number for the year	2,278

The farm. This consists of 40 acres of land, of which 10 acres are in garden, 10 in alfalfa, 2 in citrus fruits, and about 7 in pasture. There were on the place at the time of our visit 14 cows, 4 horses, and 100 hogs in good condition.

The hospital. There is a central administration building, with five ward buildings radiating from this in different directions, and all connected with covered walks and verandas. Every ward has a porch or veranda. These buildings are of wood, two stories in height, and contain 9 wards. Two new buildings for contagious diseases have been built in the rear. These buildings are one story high and contain 5 rooms each. Some wards are heated by steam, others by stoves. Electric lights are used. The sewerage is into a septic tank and then into filter beds. There is talk of connecting with city sewer. This should be done.

Care of patients. There is a good operating room, fully equipped, and a resident physician beside the superintendent, who is also a physician. There is a nurses' training school, with a graduate nurse and 12 student nurses, all women. No pay patients are received. Three meals are furnished daily. A good laundry is run in connection with the hospital, and this has recently been enlarged. Many of the beds are old, without springs, and in bad repair. Probably one half are worn out and unfit for use. Much of the bedding is old and ragged. The wards are crowded beyond reason. Beds are placed so close that there is scarcely room to walk around. There is no day room, and in bad weather the indigent men must remain in these crowded sleeping rooms. To make the conditions even fair, there should be an enlargement, and a lot of new furniture provided, especially new beds and bedding.

Management. The superintendent receives $250 a month, and the total monthly pay roll is $1,350. The premises were clean and the management is as good as could be expected under the present bad conditions.

SAN DIEGO COUNTY.

J. F. Maloney, Superintendent, San Diego.

Dr. D. B. Northrup, Physician.

Average number of patinets	115
Total number for the year	573

The farm. This is located about two miles from San Diego, while the hospital building is on the borders of the city. There are in the farm 120 acres, of which 3 are in garden, 20 in crops, and the remainder is poor. The stock consists of 14 cows, 2 horses, 20 hogs, and 300 chickens, in good condition. There is a farmhouse and barn, in good condition.

The hospital. This is a well planned and well built building, of brick, two stories and basement. There are eight wards, and three rooms for the superintendent and four for employees. Electric lights are used and steam heat. There is good water supply, with pressure for fire protection. There are plenty of toilets and twelve enamel roll top bath tubs connected with the wards. The premises were clean and in excellent condition.

Care of patients. There is a good operating room, well equipped, but with no sterilizer. The county physician visits the hospital daily and there is a resident physician. There is one graduate nurse and fifteen students, and a training school is maintained. The patients appear to be well cared for. Three meals daily are furnished. The beds are good and clean. The patients are not required to do any labor and are furnished with reading matter. Religious services are held twice a week.

Management. The superintendent receives $150 a month and resident physician $100, both residing in the building. The total monthly pay roll is $940.

A third story is about to be added to the building. An electric elevator has been put in.

SAN FRANCISCO RELIEF HOME FOR THE AGED AND INFIRM.

C. M. WOLLENBERG, Superintendent, San Francisco.

Average number of patients	1,281
Total number for the year	1,945

The farm. There are 88 acres of land, of which 27 are in garden, 33 in field crops, and the remainder in building sites. The stock consists of 24 cows, 30 horses, 46 hogs, and 200 chickens. An excellent concrete dairy barn has been built recently. Other buildings are in good condition. The farm shows good management and is profitable.

The buildings. There are eight ward buildings and two service buildings, all of wood, two stories in height. There are eight open wards and eight wards of twenty-eight small rooms each. These buildings were built by the relief corporation for persons made homeless, by the great fire of 1906. They are all comparatively new and in good condition. The institution generates its own electric lights and has its own water plant. Buildings are heated by steam. The toilets are in towers, and connected with each ward. There are plenty of roll top enamel bath tubs, and city sewer is connected. The whole premises were clean and in excellent condition.

Care of patients. None but custodial cases are received here. There are two resident physicians, and six nurses are employed. There is a matron for each female ward. Patients appear to be well fed, well clothed, and well cared for. The beds are good iron hospital, well furnished, and clean. A steam laundry is operated. Patients who are able work on the land and grounds, in the house, and laundry. A large amount of work here is done by inmates. There is a library supplied with books, magazines, and papers. A chapel is used by all religious denominations.

Management. The superintendent's salary is $300 per month, and the total pay roll is $5,326.

SAN JOAQUIN COUNTY.

DR. J. D. DAMERON, Superintendent, French Camp.

Average number of patients	197
Total number for the year	1,173

The farm. This consists of 469 acres of good land, of which 10 acres are in garden, 300 in field crops, 15 in orchard, and 169 in pasture. There were on the farm 65 cows, 18 horses, 200 hogs, and 1,500 chickens, all in good condition. The farm buildings are adequate for the needs, and the dairy barn is a model.

The hospital. There are six buildings, two stories in height, grouped around a square, with covered passageways connecting them on both floors. The front, or administration, building is of brick, and the others of wood. There are nine wards for patients. The buildings are lighted by electricity, heated by steam, with good water system and fire protection. The sewerage is cared for by cesspools. Toilet and bathing facilities are adequate. The premises were clean and in good sanitary condition.

Care of patients. There is a fine operating room, with the best of equipment, and pay patients are received at $1.00 per day. There is a nurses' training school, and fifteen nurses are employed. The patients seem to have excellent care. Three meals daily are served. There is a good laundry on the premises, and clothing and bedding were in exceptionally clean condition. Patients who are able labor about the house and on the farm. Good reading matter is furnished, and religious services are regularly held by the various churches.

Management. This hospital and the farm in connection show excellent management. It is one of the model institutions of the State.

SAN LUIS OBISPO COUNTY.

J. E. LEWIS, Superintendent, San Luis Obispo.

DR. J. C. MCGOVERN, Physician.

Average number of patients	73
Total number for the year	168

The farm. There are in the farm about fifty acres. There is a small garden and orchard and about 20 acres in hay. The stock consists of 4 cows, 2 horses, and 2 hogs. There is a small barn in good condition.

The hospital. This consists of one central building, two stories in height, and three ward buildings, one story in height, in the rear and connected by covered passageways, and several detached buildings still further back. These are all built of wood and are in good condition. There are three wards and six rooms in the main building and the detached buildings. The superintendent's rooms are in the central building. Electric lights are used; grates for heating, which are inadequate. The toilets and bathing facilities are sufficient and conveniently located in connection with the wards. The premises were clean.

Care of patients. There is an operating room, and a few pay patients are received at $1.00 per day. The physician visits the hospital daily, and three nurses are employed. Three meals daily are served, and patients appear to be well cared for. Some of the beds are without springs and are too hard. There is a commode at each bed. There is no occupation, but patients have good reading matter, and religious services are held every Sunday by various churches.

Management. The superintendent gets a salary of $75 per month, and the matron $25. The total pay roll is $265. The county physician receives $75 per month.

SAN MATEO COUNTY.

John F. Ford, Superintendent, San Mateo.

Dr. Brooks, Physician.

Average number of patients	35
Total number for the year	90

The farm. This consists of 139 acres situated five miles west of San Mateo. There is one acre in garden, 110 in field crops, and 20 in pasture. The stock consists of 10 cows, 5 horses, 8 hogs, and 100 chickens, in good condition. There is a good barn.

The hospital. This is of wood, two stories high, and in poor repair. There are four wards for patients, The superintendent is furnished a cottage. The buildings are heated by steam and lighted by lamps and candles. Water supply is sufficient for domestic purposes. There are six toilets and two bath tubs, and sewerage runs into a ditch. The buildings were found in fairly good sanitary condition.

Care of patients. There is an operating room, with poor equipment. No pay patients are received. The physician visits the hospital once in five days, oftener in case of emergency. One nurse experienced in military field hospital is employed. Three meals are served patients daily, and they appear to be well cared for. There are some good beds and some beds which should be thrown away. Sheets and pillows are furnished and washing is done in an old hand washhouse. Some labor is provided patients on yard and farm. Reading matter is furnished, and occasionally religious services are held.

Management. The superintendent gets a salary of $75 a month, and his wife a salary of $30 as matron. The total monthly pay roll is $250. The physician receives $50 per month.

SANTA BARBARA COUNTY.

T. H. HICKS, Superintendent, Santa Barbara.
J. C. BAINBRIDGE, M.D., County Physician.

Average number of patients	61
Total number for the year	196

The farm. The site comprises a tract of 15.38 acres of land adjoining the town. There is one acre of garden, 9 acres of field crops, and the remainder is pasture. There are kept 3 cows, 1 horse, and about 150 chickens. The farm buildings are in fair condition.

The hospital. The hospital buildings consist of one old dwelling house enlarged, and three separate buildings, all of wood and in fair condition. There are three wards and a number of small rooms for patients. There is good water supply with fire pressure. There are eleven toilets and six bath tubs, mostly enamel roll top, and all conveniently located. The premises were in clean condition.

Care of patients. There is no operating room. Pay patients are accepted at a charge of $15 per month. The physician visits the hospital twice a week and when called. There are five nurses, three male and two female. The patients seem to be well cared for, well fed, and well clothed. The beds are iron hospital, with springs and mattresses, and good clean bedding. There is a steam laundry on the premises. Some work is performed by the patients on the grounds. Good reading matter is furnished, and religious services are held twice a week.

Management. The superintendent receives a salary of $100 a month, and the total pay roll is $390 per month. The salary of the county physician is also $100 per month.

SANTA CLARA COUNTY HOSPITAL.

DR. J. CLARK, Superintendent and Physician, San Jose.

Average number of patients	135.5
Total number for the year	687

The farm. There are in the farm 50 acres of land, of which about 30 are in hay crops. The general quality is good. The stock consists of 16 cows, 5 horses, 12 hogs, and about 300 chickens. The farm buildings are in fair condition.

The hospital. This is one of the newest and best county hospital buildings in the State. It is a large two-story building, with wings extending to the rear at each end. A separate refectory building is located in the rear of the center of the main building, and connected by covered corridors; the upper floors are also connected by inclines. This building is exclusively a hospital. There is a separate building for custodial women, a nurses' cottage, and a cottage for the superintendent. All the buildings are of wood, lighted by electricity and heated by steam. There is good private water supply, with fire protection, and sewerage into a cesspool. There is a good supply of toilets and bath tubs. The sanitary conditions are the best.

Care of patients. The operating room is modern, with auxiliary rooms all fully equipped. Pay patients are received at a charge of $7 to $15 a week. There is one graduate and thirteen student nurses. Patients are receiving the best of care in all respects. The beds are the best iron hospital, new, fully furnished, and clean. There is a good steam laundry on the premises. Good reading matter is supplied, and religious services are held on Sundays.

Management. The superintendent's salary is $250 per month, and the total monthly pay roll $872. The amount received last year from pay patients was $3,565.

SANTA CLARA COUNTY ALMSHOUSE.

J. S. Carson, Superintendent, Milpitas.

M. V. Mulcahy, M.D., Physician.

Average number of patients	172
Total number for the year	461

The farm. This consists of 230 acres of land, of which about 100 acres are tillable. There are 10 acres in garden, 2 in orchard, 75 in hay, and the remainder in pasture. The stock consists of 45 cows, 7 horses, 100 swine, and 80 chickens, all in good condition. There is a cow barn, a horse barn, hog houses, and chicken houses, in fairly good condition.

The hospital. There are four buildings of wood, two stories high, besides a number of one-story small outbuildings. The larger buildings are in fairly good repair. There are twelve wards, besides the small outside rooms, and cottages for superintendent and farmer. There is a good private water supply, with engine and tank, and good fire pressure. Lamps are used for lighting, and the buildings are heated by steam. There are plenty of toilets, mainly on the outside of the buildings, and seven bath tubs. Sewerage is into septic tanks. The premises were in good clean condition.

Care of patients. This institution receives only indigent men. All sick cases are kept at the county hospital, near Campbell, and there is also provision for female indigents at the latter institution. The physician visits the almshouse twice a week. There is one nurse employed. Three meals are served daily. The inmates seemed to be well fed and well clothed. The beds are iron and most of them have springs. A few, however, are bad and should be replaced. Sheets, pillows, blankets, and quilts are used. Bedding was clean. Washing is done in a washhouse on the premises. There is plenty of occupation for patients on the farm and about the yard. Good reading matter is furnished.

Management. The superintendent receives $100 a month and is furnished a cottage. The total monthly pay roll is $385.

SANTA CRUZ COUNTY.

S. E. Miller, Superintendent, Santa Cruz.

W. R. Congden, County Physician.

Average number of patients	68
Total number for the year	216

The farm. There are 17 acres in the grounds, of which 3½ are in garden, half an acre in orchard, and 13 in pasture. The stock consists of 5 cows, 1 horse, 13 hogs, and 200 chickens. A modern barn has just been built.

The hospital. There are three buildings, all of wood, two of them two stories in height, and one one story in height, all in good repair. A new building was recently built, containing superintendent's residence, women's department, kitchen and dining-room. A new addition has also been built to the hospital building. Also two new buildings for detention and isolation of contagious diseases. There are five wards for patients, eight rooms for the superintendent, and three for employees. There is a good water pressure for fire protection and domestic uses, electric lights, septic tanks for sewerage, water-closets in each ward, and six good roll top enamel bath tubs. The premises were clean and in good sanitary condition. Buildings have all been newly painted.

Care of patients. There is an operating room with fair equipment, and regular hospital work is done. The physician visits the hospital daily, and two experienced nurses are employed. Three meals daily are served and patients appear to be well clothed and well fed. Iron beds are used and supplied with sheets and pillows in clean condition. Good reading matter is supplied, and religious services are conducted each Sunday by the various churches.

Management. The superintendent receives $95 per month for the services of himself and wife, and the total monthly pay roll is $295. The county physician receives $50 per month.

This hospital is now a good one, in good condition, and well managed.

SHASTA COUNTY.

C. C. Bidwell, Superintendent, Redding.

D. F. Stabel, M.D., County Physician.

Average number of patients	45
Total number for the year	177

The farm. This consists of 91 acres, 40 acres having been bought since last report. There is about 1 acre in garden and 2 in orchard. The stock consists of 4 cows, 2 horses, and 100 chickens. There are two barns. The buildings and farm are in fair condition.

The hospital. There is one building, of wood, one story high, in good state of repair. There is an interior court and plenty of veranda. New floors have been put in since our last visit, and also a pavilion for consumptives has been built. There are eight wards for patients. The building is lighted by electricity and heated by stoves. There is a good private water supply, with fire pressure. There are five water-closets in connected toilet room, and four enamel roll top bath tubs. Cleanliness was only fairly good.

Care of patients. There is an operating room, but with almost no equipment. No pay patients are received. The physician comes when called and one graduate nurse is employed. Two meals and a cold lunch are served the patients. The beds for the sick have springs, but the beds for custodial cases have bottoms of strips of iron, with no springs. No sheets are used and blankets are washed every two weeks. The furniture is poor. There is no labor and no religious services are held. Reading matter is furnished.

Management. The superintendent receives $100 a month and the total pay roll is $265 a month. The county physician receives $75 per month.

SISKIYOU COUNTY.

F. A. Brant, Superintendent, Yreka.

T. J. McNulty, County Physician.

Average number of patients	60.5
Total number for the year	185

The farm. This consists of 18 acres of land in the suburbs of Yreka. There are 2 acres in garden, 8 in alfalfa, and the remainder in pasture. The stock consists of 3 cows, 2 horses, 6 hogs, and 150 chickens, all in good condition. There is a good barn.

The hospital. This consists of two buildings, each two stories high, built of wood. One is new and the other old, but in fair condition. They are sufficiently separated to prevent exposure in case of fire. There are three wards, twenty single and four double rooms for patients, and six rooms for superintendent and employees. Water supply is by private tank and pump, sufficient for fire protection, and six chemical extinguishers are also conveniently located. Buildings are lighted by electricity and heated by furnaces. There are five water-closets and five bathrooms, conveniently located and in good condition. In the new building there is running water in each room. Buildings were clean and in good sanitary condition.

Care of patients. There is an operating room with table and sterilizer. Pay patients are received at a charge of from $15 to $40 a month. A separate room is provided for insane. No women are received at the hospital and no provision made for them. Physician visits the hospital daily. One graduate nurse is employed. Two meals are served daily. The beds are good iron hospital, with sheets, pillows, and blankets. The bedding was clean and in good condition. Washing is sent to a city laundry. Patients perform some labor on the yard and about the house. Good reading matter is furnished and religious services are held occasionally.

Management. The superintendent receives $100 a month, and the total pay roll is $445 a month. The county physician receives $85 a month.

SOLANO COUNTY.

JOSEPH H. HOYT, Superintendent, Fairfield.

DR. W. G. DOWNING, Physician.

Average number of patients	55
Total number for the year	190

The farm. This consists of 60 acres of poor land and is used for nothing but pasture. There are kept 4 cows, 3 horses, and 150 chickens. There is a barn in good condition.

The hospital. There are two buildings, one for men and one for women. The one for men is two stories high and the other one story. Both are built of wood and are in fair repair. There is good fire protection. The superintendent has a separate cottage, and there are eight wards for patients. Natural gas is used for lighting and cooking, and stoves for heating. There are four toilets and six bath tubs, conveniently located. The water supply is good and sewerage into cesspool. Sanitary conditions have been greatly improved since our last visit, but are still not good. The sewerage is pumped into a field to the west of, and close to, the buildings, the prevailing winds being from the west. Premises were clean.

Care of patients. There is an operating room with instruments and table. Regular hospital work is done, and pay patients are received. The physician visits the hospital daily; three nurses are employed, one of whom is a graduate, the others experienced. The patients seem to be well fed and clothed, and to receive good care. Many of the beds are old and without springs. Washing is done by laundry outside. The patients assist in the house and yard work, are provided with reading matter, and occasionally have religious services.

Management. The superintendent receives $65 per month, and the total monthly pay roll is $215.

SONOMA COUNTY.

DR. S. S. BOGEL, Superintendent and County Physician, Santa Rosa.

Average number of patients	114
Total number for the year	446

The farm. This consists of 144 acres of fair quality land, of which 10 acres are in garden, 20 in vineyard, and 100 in pasture. Eight cows and 3 horses are kept, but no hogs or poultry. There is a barn in fair condition.

The hospital. The hospital building proper is a neat one-story wooden structure in good condition. There are eight wards in this. This building was clean and in good sanitary condition. The buildings for indigents are old and in bad condition, isolated from the main hospital. The buildings are lighted by acetylene gas and heated by stoves, have good water supply and sewerage, with fifteen toilets and ten baths.

Care of patients. There is a good operating room with fairly good equipment. The physician visits the hospital daily, and five nurses, one a graduate, are employed. The patients seem to be well fed and well clothed. Three meals are given daily. There is a good steam laundry. Those able to work are employed on the farm and grounds. Reading matter is furnished, and religious services are held by the different churches.

Management. The hospital is in charge of the matron, the superintendent being the county physician, and residing in Santa Rosa. The monthly pay roll is $595.

STANISLAUS COUNTY.

E. O. Trask, Superintendent, Modesto.

Dr. R. F. De Lappe, Physician.

Average number of patients	50
Total number for the year	384

The farm. There are 20 acres of land of good quality, of which 10 are in crops, 2 in garden, and 2 in pasture. The stock consists of 6 cows, 1 horse, 7 hogs, and 100 chickens, all in good condition. The farm buildings consist of barn, hog shed, and two chicken houses, all in good condition.

The hospital. There is a large central building of wood, two stories in height, in good repair. Porches and balconies extend around the building. There are eight rooms or wards for patients, two rooms for the superintendent, and four for employees. The building is lighted by both gas and electricity, heated by steam, has private water supply, good fire protection, and city sewerage. Bathing and toilet facilities are adequate and convenient.

Care of patients. There is a good operating room with sterilizer, and pay patients are received at $1 per day. The physician visits the hospital at least once daily, and two graduate nurses are employed. The patients appear to have good care, are well fed and well clothed. The premises were clean and in good sanitary condition. Three meals daily are given. There is a good laundry on the premises. No labor is required of patients, but good opportunities for out of door recreation and good reading matter are provided. No religious services are held.

Management. The superintendent and wife receive a salary of $90 per month, including maintenance. The total monthly pay roll is $410. The county physician receives $1,000 per year for his services as such, and resides in Modesto.

SUTTER COUNTY.

R. H. Anderson, Superintendent, Yuba City.

T. P. Perry, M.D., County Physician.

Average number of patients	16.5
Total number for the year	100

The farm. This hospital is located about one and one half miles northwest of Yuba City, on a tract of 5 acres of poor land. There is 1 acre in potatoes and 1 acre in alfalfa. The county has no live stock on the place.

The hospital. This is a small one-story wooden structure, old and out of repair. The building is not plastered, and the cracks in the board walls are a convenient place for vermin. There are three wards and two rooms for patients, and a cottage for the superintendent. Lamps and candles are used for lighting, and stoves for heating. The water supply is from a hand pump and is insufficient. One extinguisher furnishes all the protection against fire. The toilet is out of doors and has no sewer connection. There is one bath tub of tin, and old. The premises were clean.

Care of patients. There is no operating room and no pay patients are received. A new room for women has been built on. The physician visits the hospital every other day. No nurses are employed. Three meals are furnished and the superintendent's wife acts as cook. Men who are able are compelled to wash their own clothing at a camp fire in the yard. The beds are fairly good and fairly well furnished. The washing is done by a hand machine, and the bedding was fairly clean. There is no occupation. There is some reading matter, and religious services are held.

Management. The superintendent receives $25 per month and 20 cents for each meal furnished. He furnishes everything except wood, coal oil, soap, and clothing.

The conditions at this hospital are bad and inexcusable, but in no wise the fault of the superintendent.

TEHAMA COUNTY.

E. J. Conard, Superintendent, Red Bluff.

H. H. Zimmerman, M.D., County Physician.

Average number of patients	32
Total number for the year	192

The farm. The site consists of 35 acres just outside of the corporate limits of Red Bluff. Six acres are in oranges, 4 in deciduous orchard, and 2 in grapes. The remainder is in pasture. Three cows, 1 horse, 4 hogs, and 150 chickens are kept. There is a small barn in poor condition.

The hospital. There is a central building, two stories high, with two detached buildings in the rear, connected with covered corridors. These are of wood and in fair condition. There is a new detached building of brick, with fourteen small rooms for indigents. The other buildings contain two wards and five rooms. No women are kept. Buildings are lighted by electricity and heated by stoves and fireplaces. Water is obtained from a private well, and the sewerage is not good. Six fire extinguishers are kept. There are four toilets, of which two are inside, and two bath tubs in only fair condition.

Care of patients. There is an operating room and pay patients are received at a charge of $10 per month. No nurses are employed. Two meals and a cold lunch are served. There is a hand laundry and the clothing and beds were found in fairly clean condition. Comparatively little labor is performed by patients. Reading matter is furnished, and religious services are held.

Management. The superintendent receives $80 per month and this is the total pay roll. He has to care for twenty-eight patients and hire a cook, all for this munificent salary. The supervisors of this county should employ a nurse and a cook. The salary of the county physician is also $80 per month.

TULARE COUNTY.

Frank Osborn, Superintendent, Visalia.

Dr. E. B. Farrow, Physician.

Average number of patients	21
Total number for the year	132

This hospital is located on a city block in the corporate limits of Visalia, the county seat; therefore no farming operations are conducted.

The hospital. This consists of a central building, two stories in height, built of brick, and three small new wooden pavilions. There are six wards for patients, three rooms for the superintendent and his family, and two for employees. The superintendent has neither a private dining-room nor bathroom. These should be provided. The buildings are lighted by electricity, heated by stoves, and have city water and fire protection. There are three toilets and two bath tubs, one on each floor, and city sewerage. The premises were in good clean condition. The present dining-room is too small for the number of patients.

Care of patients. There is no separate operating room, but there is a drug room with some equipment for operations in it. No pay patients are received. The physician visits the hospital daily, and one experienced nurse is employed. The patients are given three meals daily, are well clothed, and seem to have good care. Good beds and bedding are provided, but the other furniture is scant. There is no labor except the housework, and no place for out of door recreation in rainy weather. Reading matter is furnished, and occasionally religious services are held.

Management. The superintendent gets a salary of $75 a month and his wife $25 as matron. The nurse gets $50, the cook $45, and washerwoman $11 per month. The salary of the county physician is $75 per month.

TUOLUMNE COUNTY.

ANDY SHINE, Superintendent, Sonora.

E. T. GOULD, M.D., County Physician.

Average number of patients	38
Total number for the year	112

The farm. The site consists of four acres in the town of Sonora. There is a small garden and a few fruit trees. Six hogs and 150 chickens constitute the live stock.

The hospital. This building was intended for a hotel. It is of wood, two stories high, and in good condition. It contains thirty-six rooms for patients and two for the superintendent. A separate building in the rear contains six rooms and is used for the women. The buildings are lighted by electricity and heated by stoves. There is good water supply, three bathrooms, and plenty of toilets, all connected with city sewer. The buildings were in clean sanitary condition.

Care of patients. There is an operating room, but it is not equipped. No pay patients are received. The physician visits the hospital daily, and an experienced male nurse is employed. A matron has charge of the women. Three meals are furnished daily and patients seem to be well cared for. The beds are good, well furnished, and clean. Only a little work on the yard and in the house is done by patients, and good reading matter is furnished.

Management. The superintendent receives $65 a month for his services, and the pay roll is $190 a month.

VENTURA COUNTY.

A. L. CAGNACCI, Superintendent, Ventura.

DR. T. E. CUNNANE, Physician.

Average number of patinets	29
Total number for the year	185

The site consists of a quarter of a city block in Ventura, and there is no farm connected with it.

The hospital. There is a central building, two stories high, in good condition, and some detached buildings in the rear, one story in height and in fair condition only. All are built of wood. There are four wards in the main building and two rooms for officers. They are lighted by electricity and heated by stoves. There is a good water supply, with nine toilets and three enamel roll top bath tubs, conveniently located, and city sewer. There is the regular city fire protection. The premises were in clean sanitary condition.

Care of patients. There is an operating room with full equipment. Hospital cases are accepted but no pay patients. The physician visits the hospital daily. One graduate nurse is employed. Three meals are furnished and patients seem to be well fed, clothed, and cared for. The beds are iron hospital beds, and well furnished with clean bedding. Reading matter is furnished, but no religious services are held.

Management. The superintendent contracts with the county to board and care for the patients for $6 per week each, and furnishes everything but services of physician, medicines, and clothing. The monthly pay roll is $155, which is paid by the superintendent. While this hospital seems to be satisfactory, we are generally opposed to this plan.

YOLO COUNTY.

J. D. HUNTER, Superintendent, Woodland.

W. J. BLEVINS, M.D., County Physician.

Average number of patients	33.5
Total number for the year	160

The farm. This consists of 65 acres of good land, of which 25 acres are in wheat and 25 in alfalfa, and 15 in pasture. There is no garden, and only a few fruit trees. The stock consists of 15 cows, 4 horses, 40 hogs, and 50 chickens, all in good condition. There is a good barn and other buildings.

The hospital. This consists of a central building, two stories high, with three wings one story high, all of wood. There are three wards, and ten rooms for patients, four rooms for superintendent, and two for employees. Electric lights and steam heat are used. There is good private water supply, with fire pressure. There are eight toilets and three bath tubs in rather poor condition, and sewerage is into a field an eighth of a mile away. Cleanliness was fair.

Care of patients. There is an operating room with little equipment. No pay patients are received. The physician visits hospital daily. One nurse is employed. Two meals and a lunch are served daily. Patients did not seem to have the best of care. Beds are iron, with springs, and supplied with blankets, pillowcase, and one sheet. Bedding was not very clean. No labor is required of patients. Reading matter is furnished, and occasionally religious services are held.

Management. The superintendent receives $70 a month for himself and wife. The total monthly pay roll is $215. The county physician receives $100 a month.

Since our last visit, 25 acres of land have been purchased, buildings painted, a pavilion of two rooms for tubercular cases, and a building of two rooms for indigents, have been built.

YUBA COUNTY.

C. E. STONE, M.D., Superintendent, and County Physician, Marysville.

Average number of patients	45
Total number for the year	236

The farm. The site consists of 7½ acres of ground in the city of Marysville, of which about half an acre is used for garden, and the remainder, outside of the building site, for pasture. The stock consists of 4 cows, 2 horses, and 2 hogs, in good condition. Two barns and chicken houses are in fair condition.

The hospital. This consists of a central building with three wings extending to the rear. The front portion is two stories high, and the rear, one. The building is of brick and wood, in fair state of repair. There are three wards, and a number of small rooms for patients. The building is lighted by electricity and heated by hot water. There is good private water supply with fire pressure. Water-closets are sufficient, in good condition, and conveniently located, and there is city sewer. There is a good bath tub for each ward. The wards and corridors were fairly clean, but the kitchen especially showed considerable dirt, and the windows were not clean.

Care of patients. There is an operating room with fair equipment. No pay patients are received. A matron is employed for the women, and the steward looks after the men. Three meals are furnished daily. The beds are iron with springs, and sheets and pillows are used. Some of the beds are in poor condition. Bedding is washed in a hand washhouse on the premises, and was in fair condition. No labor is required of patients, except about the house and yard. Good reading matter is furnished, and occasionally religious services are held.

Management. The superintendent and steward both being away at the time of our visit, we were unable to obtain the details concerning the management.

STATISTICS.

TABLE I. STATE PRISONS.

Movement of Population for the Year ending June 30, 1909.

	Folsom.	San Quentin.			Total.		Grand total.
	Male	Male	Female	Total	Male	Female	
I. *Prisoners.*							
Total enrollment June 30, 1908	1,089	1,813	36	1,849	2,902	36	2,938
On parole June 30, 1908	57	118	4	122	175	4	179
Escapes at large June 30, 1908	12	8	----	8	20	----	20
At insane hospitals June 30, 1908	11	17	----	17	28	----	28
Present in prison June 30, 1908	1,009	1,670	32	1,702	2,679	32	2,711
Received during year:							
By commitment	326	705	8	713	1,031	8	1,039
By paroles returned	4	12	----	12	16	----	16
By escapes returned	2	------	----	--------	2	----	2
By other manner	10	22	----	22	32	----	32
Total in charge during year	1,351	2,409	40	2,449	3,760	40	3,800
Passed out during year—							
By discharge	232	417	10	427	649	10	659
By parole	58	129	----	129	187	----	187
By escape	2	------	----	--------	2	----	2
By transfer	4	8	1	9	12	1	13
By death	10	17	1	18	27	1	28
By other manner	16	52	----	52	68	----	68
Total passed out	322	623	12	635	945	12	957
In prison June 30, 1909	1029	1,786	28	1,814	2,815	28	2,843
On parole June 30, 1909	99	156	4	160	255	4	259
Escapes at large June 30, 1909	13	12	----	12	25	----	25
At insane hospitals and out by order of court June 30, 1909	11	14	----	14	25	----	25
Total enrollment June 30, 1909	1,152	1,968	32	2,000	3,120	32	3,152
Daily average number actually present	1,014.43	1,699	31.4	1,730 .4	2,713.43	31.4	2,744.83

	Folsom.	San Quentin.			Grand total.
	Male.	Male.	Female	Total.	
II. *Officers and Employees.*					
Average number during year of—					
Directors	5	5	-------	5	5
Officers	26	42	1	43	69
Guards	66	71	--------	71	137
Totals	97	118	1	119	216
Average number of inmates to each person on salary	11.69	--------	--------	15	26.69
Average number of prisoners to each guard	15.36	--------	--------	24.37	--------

TABLE II. STATE PRISONS.

Movement of Population for the Year ending June 30, 1910.

	Folsom.	San Quentin.			Total.		Grand total
	Male	Male	Female	Total	Male	Female	
I. *Prisoners.*							
Total enrollment June 30, 1909	1,152	1,968	32	2,000	3,120	32	3,152
On parole June 30, 1909	99	168	4	172	267	4	271
Escapes at large June 30, 1909	13				13		13
Out by order of court	1				1		1
At asylums June 30, 1909	10	14		14	24		24
Present in prison June 30, 1909	1,029	1,786	28	1,814	2,815	28	2,843
Received during year—							
By commitment	276	729	10	739	1,005	10	1,015
By paroles returned	11	17		17	28		28
Otherwise received	6	22		22	28		28
Total in charge during year	1,322	2,554	38	2,592	3,876	38	3,914
Passed out during year—							
By discharge	195	400	3	403	595	3	598
By parole	82	175	4	179	257	4	261
By escape	1				1		1
By transfer		21		21	21		21
By death	7	27	2	29	34	2	36
By other manner	21	38		38	59		59
Total passed out	306	661	9	670	967	9	976
In prison June 30, 1910	1,016	1,893	29	1,922	2,909	29	2,938
On parole June 30, 1910	113	218	7	225	331	7	338
Escapes at large June 30, 1910	13				13		13
At asylums June 30, 1910	11	20		20	31		31
Total enrollment June 30, 1910	1,153	2,131	36	2,167	3,284	36	3,320
Daily average number actually present	1,012 39	1,803	29	1,832	2,815.39	29	2,844.39
II. *Administration.*							
Average number during year of—							
Directors*	5	5		5	5		5
Officers	32	40	1	41	72	1	73
Guards	60	72		72	132		132
Totals	97	117	1	118	209	1	210
Number of above boarded by prison	48	67		67	115		115
Average number of prisoners to each person on salary	11	16	29	16.21			

* Same board of directors for both prisons.

TABLE III. STATE REFORM SCHOOLS.

Movement of Population for the Year ending June 30, 1909.

	Preston.	Whittier.			Total.		Grand total
	Male	Male	Female	Total	Male	Female	
I. *Inmates.*							
Total enrollment June 30, 1908	400	499	78	577	899	78	977
On parole June 30, 1908	77	195	23	218	272	23	295
Escapes at large June 30, 1908		28		28	28		28
Present in school June 30, 1908	323	276	55	331	599	55	654
Received during year—							
By commitment	175	91	39	130	266	39	305
By paroles returned	7	29	7	36	36	7	43
By escapes returned		2		2	2		2
Total in charge during year	505	398	101	499	903	101	1,004
Passed out during year—							
By discharge	17	14	12	26	31	12	43
By parole	82	77	17	94	159	17	176
By escape		7		7	7		7
By transfer	1				1		1
By death		1		1	1		1
By other manner	2		1	1	2	1	3
Total passed out	102	99	30	129	201	30	231
In institution June 30, 1909	403	299	71	370	702	71	773
On parole June 30, 1909	111	171	24	195	282	24	306
Escapes at large June 30, 1909		21		21	21		21
Total enrollment June 30, 1909	514	491	95	586	1,005	95	1,100
Daily average number actually present	361.42	279.76	59.88	339.64	641.18	59.88	701.06

	Preston.			Whittier.		
	Male	Female	Total	Male	Female	Total
II. *Officers and Employees.*						
Average number during year of—						
Trustees	3		3	3		3
Officers	4	3	7	7	2	9
Teachers—Literary	1	3	4	3	6	9
Teachers—Industrial	26	11	37	17	4	21
Guards	6		6	15	2	17
Domestic laborers, etc.				1	4	5
Totals	40	17	57	46	18	64
Number boarded by institution	36	16	52	40	11	51

TABLE IV. STATE REFORM SCHOOLS.

Movement of population for the Year ending June 30, 1910.

	Preston.	Whittier.			Total.		Grand total
	Male	Male	Female	Total	Male	Female	
I. *Inmates.*							
Total enrollment June 30, 1909	514	491	95	586	1,005	95	1,100
On parole June 30, 1909	111	171	24	195	282	24	306
Escapes at large June 30, 1909		21		21	21		21
Present in school June 30, 1909	403	299	71	370	702	71	773
Received during year—							
By commitment	188	96	46	142	284	46	330
By paroles returned	11	57	12	69	68	12	80
By escapes returned	2	2		2	4		4
Total in charge during year	604	454	129	583	1,058	129	1,187
Passed out during year—							
By discharge	34	42	5	47	76	5	81
By parole	162	100	44	144	262	44	306
By escape	11	2		2	13		13
By transfer	2	1		1	3		3
By death		1		1	1		1
By other manner	12	1		1	13		13
Total passed out	221	147	49	196	368	49	417
In institution June 30, 1910	383	307	80	387	690	80	770
On parole June 30, 1910	207	184	42	226	391	42	433
Escapes at large June 30, 1910	7	15		15	22		22
Total enrollment June 30, 1910	597	506	122	628	1,103	122	1,225
Daily average number actually present	392.5	287.49	75.47	362.96	679.99	75.47	755.46

	Preston.			Whittier.		
	Male	Female	Total	Male	Female	Total
II. *Administration.*						
Average number during year of—						
Trustees	3		3	3		3
Officers	7	3	10	7	2	9
Teachers, literary		5	5	3	6	9
Teachers, industrial	22	1	23	18	6	24
Guards	5		5	14	2	16
Domestics, laborers, etc.	14	11	25	2	5	7
Totals	51	20	71	47	21	68
Number of above boarded by institution	51	20	71	39	14	53
Average number of inmates to each person on salary			5.77			5.6

TABLE V. HOSPITALS FOR INSANE.

Movement of Population for the Year ending June 30, 1909.

	Stockton.			Napa.			Agnews.			Mendocino.			Southern California.			Totals.		
	Men	Women.	Total	Men	Women.	Total	Men	Women.	Total	Men	Women.	Total	Men	Women.	Total	Men	Women.	Grand total.
I. *Inmates.*																		
Total enrollment June 30, 1908	1,288	705	1,993	1,040	798	1,838	454	315	769	583	263	846	700	414	1,114	4,065	2,495	6,560
On parole June 30, 1908	36	51	87	22	44	66	25	22	47	5	7	12	29	40	69	117	164	281
Escapes at large June 30, 1908							10		10				14	1	15	24	1	25
Present in hospital June 30, 1908	1,252	654	1,906	1,018	754	1,772	419	293	712	578	256	834	657	373	1,030	3,924	2,330	6,254
Received during year—																		
By commitment	337	140	477	256	176	432	22	20	42	215	57	272	328	168	496	1,158	561	1,719
By paroles returned	28	54	82	22	27	49	5	2	7		8	8	71	62	133	126	153	279
By escapes returned	5		5	23	1	24	3		3	11		11	30	2	32	72	3	75
Total in charge during year	1,622	848	2,470	1,319	958	2,277	449	315	764	804	321	1,125	1,086	605	1,691	5,280	3,047	8.327
Passed out during year—																		
By discharge	153	71	224	78	59	137	12	6	18	130	27	157	168	67	235	541	230	771
By parole	18	55	73	22	35	57	6	5	11	9	13	22	55	42	97	110	150	260
By escape	28		28	35	1	36	3		3	17		17	31	1	32	114	2	116
By transfer		3	3	1	2	3							1		1	2	5	7
By death	172	61	233	141	76	217	21	14	35	50	20	70	75	37	112	459	208	667
Total passed out	371	190	561	277	173	450	42	25	67	206	60	266	330	147	477	1,226	595	1,821
In hospital June 30, 1909	1,251	658	1,909	1,042	785	1,827	407	290	697	598	261	859	756	458	1,214	4,054	2,452	6,506
On parole June 30, 1909	18	55	73	22	52	74	25	25	50	8	12	20	13	20	33	87	164	251
Escapes at large June 30, 1909							11		11	6		6	15		15	31		31
Total enrollment June 30, 1999	1.269	713	1,982	1,064	837	1,901	443	315	758	612	273	885	784	478	1,262	4,172	2 616	6,788
Daily average number actually present	1,251	656	1,907	1,029.5	773	1,802.5	416	290	706	582	253	835	712	411	1,123	3,990.5	2,383	6,373.5

TABLE V. HOSPITALS FOR INSANE—Continued.

	Stockton.			Napa.			Agnews.			Mendocino.			Southern California.			Totals.		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Grand total
II. *Officers and Employees.*																		
Average number during year of—																		
Managers	5	------	5	5	------	5	5	------	5	5	------	5	5	------	5	25	------	25
Officers	7	2	9	14	3	17	6	1	7	6	1	7	7	2	9	40	9	49
Attendants, including night watches	75	47	122	66	51	117	34	22	56	29	18	47	42	30	72	246	168	414
Domestics, laborers, etc.	72	10	82	43	13	56	37	8	45	37	6	43	35	7	42	224	44	268
Totals	159	59	218	128	67	195	82	31	113	77	25	102	89	39	128	535	221	756
Number of above boarded by the institution	------	------	189	122	65	187	80	31	111	70	25	95	85	39	124	------	------	706
Average number of inmates to each person on salary	------	------	9	------	------	9.5	------	------	6.54	------	------	8.7	------	------	9.13	------	------	------
Average number of patients to each attendant	16.68	14	15.63	15.6	15.15	15.4	13	13.18	13.07	20.07	14.05	17.76	16.95	13.7	15.6	------	------	------

TABLE VI. HOSPITALS FOR INSANE.

Movement of Population for the Year ending June 30, 1910.

	Stockton.			Napa.			Agnews.			Mendocino.			Southern California.			Totals.		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
I. *Inmates.*																		
Total enrollment June 30, 1909	1,269	713	1,982	1,066	837	1,903	443	315	758	612	273	885	784	478	1,262	4,174	2,616	6,790
On parole June 30, 1909	18	55	73	24	52	76	25	25	50	8	12	20	13	20	33	88	164	252
Escapes at large June 30, 1909							11		11	6		6	15		15	32		32
Present in hospital June 30, 1909	1,251	658	1,909	1,042	785	1,827	407	290	697	598	261	859	756	458	1,214	4,054	2,452	6,506
Received during year—																		
By commitment	358	190	548	269	181	450	31	36	67	196	63	259	315	191	506	1,169	661	1,830
By paroles returned	59	78	137	28	33	61	11	9	20				39	65	104	137	185	322
By escapes returned	48	1	49	27		27	13		13	8		8	29		29	125	1	126
Total in charge during year	1,716	927	2,643	1,366	999	2,365	462	335	797	802	324	1,126	1,139	714	1,853	5,485	3,299	8,784
Passed out during year—																		
By discharge	187	75	262	107	49	156	18	12	30	105	37	142	147	96	243	564	269	833
By parole	59	66	125	30	48	78	13	17	30				38	56	94	140	187	327
By escape	32	1	33	39	1	40	2		2	10		10	21		21	104	2	106
By transfer	4		4	3	3	6				4		4				11	3	14
By death	143	69	212	118	86	204	21	14	35	55	14	69	82	41	123	419	224	643
Total passed out	425	211	636	297	187	484	54	43	97	174	51	225	288	193	481	1,238	685	1,923
In hospital June 30, 1910	1,291	716	2,007	1,069	812	1,881	408	292	700	628	273	901	851	521	1,372	4,247	2,614	6,861
On parole June 30, 1910	18	43	61	26	67	93	27	33	60	9	14	23	12	11	23	92	168	260
Escapes at large June 30, 1910										2		2	7		7	9		9
Total enrollment June 30, 1910	1,309	759	2,068	1,095	879	1,974	435	325	760	639	287	926	870	532	1,402	4,348	2,782	7,130
Daily average number actually present	1,270	686	1,956	1,052	798	1,850	407	287	694	609	262	871	810	487	1,297	4,148	2,520	6,668

TABLE VI. HOSPITALS FOR INSANE—Continued.

	Stockton.			Napa.			Agnews.			Mendocino.			Southern California.			Totals.		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
II. *Officers and Employees.*																		
Average number during year—																		
Managers	5	------	5	5	------	5	5	------	5	5	------	5	5	------	5	25	------	25
Officers	8	2	10	14	5	19	6	1	7	6	1	7	7	2	9	41	11	52
Attendants, incl'g night watches	78	47	125	72	49	121	32	22	54	28	20	48	50	37	87	260	175	435
Domestics, laborers, etc.	75	8	83	49	15	64	40	9	49	37	7	44	39	10	49	240	49	289
Totals	166	57	223	140	69	209	83	32	115	76	28	104	101	49	150	566	235	801
Number of above boarded by the institution	------	------	228	133	67	200	77	82	109	------	------	101	93	49	142	------	------	780
Average number of inmates to each person on salary	------	------	9	------	------	9.06	5.22	9.22	6.31	8.57	10	8.7	8.4	9.9	8.9	------	------	------
Average number of patients to each attendant	------	------	15	------	------	15.29	12.72	13 04	12.85	21.7	13.1	18.1	16.2	13.2	14.9	------	------	------

TABLE VII. SONOMA STATE HOME.

Movement of Population for the Year ending June 30, 1909.

	Male.	Female.	Total.
I. *Inmates.*			
Total enrollment June 30, 1908	413	316	729
On parole June 30, 1908	18	9	27
Present in institution June 30, 1908	395	307	702
Received during year—			
By commitment	52	49	101
By paroles returned	3	3	6
Total in charge during year	450	359	809
Passed out during year—			
By discharge	13	9	22
By transfer	1		1
By death	23	13	36
Total passed out	37	22	59
In institution June 30, 1909	413	337	750
On parole June 30, 1909	14	6	20
Escapes at large June 30, 1909	1		1
Total enrollment June 30, 1909	428	343	771
Daily average number actually present			723
II. *Officers and Employees.*			
Average number during year of—			
Trustees	5		5
Officers	5	2	7
Teachers, literary		2	2
Teachers, industrial		1	1
Attendants	27	27	54
Guards	1		1
Domestics, laborers, etc.	42	18	61
Totals	80	50	130
Average of above boarded by institution			123
Average number of inmates to each person on salary			5.55
Average number patients to each attendant			13.4

TABLE VIII. SONOMA STATE HOME.

Movement of Population for the Year ending June 30, 1910.

	Male.	Female.	Total.
I. *Inmates.*			
Total enrollment June 30, 1909	428	343	771
On parole June 30, 1909	15	6	21
Present in institution June 30, 1909	413	337	750
Received during year—			
By commitment	98	73	171
By paroles returned	15	6	21
By escapes returned	3	2	5
Total in charge during year	529	418	947
Passed out during year—			
By discharge	12	9	21
By parole	19	15	34
By escape	3	2	5
By transfer	1	3	4
By death	20	14	34
Total passed out	55	43	98
In institution June 30, 1910	474	375	849
On parole June 30, 1910	19	15	34
Total enrollment June 30, 1910	493	390	883
Daily average number actually present	446.5	360.33	806.83
II. *Administration.*			
Average number during year of—			
Managers	5		5
Teachers, literary		3	3
Officers	6	1	7
Attendants	24	33	57
Guards	1		1
Domestics, laborers and other employees	46	6	52
Totals	82	43	125
Number of above boarded by the institution	78	43	121
Average number inmates to each person on salary	5.8	8.38	6.72
Average number of patients to each attendant	18.6	10.92	14.15

TABLE IX. INDUSTRIAL HOME FOR ADULT BLIND.

Movement of Population for the Year ending June 30, 1909.

	Male	Female.	Total.
I. *Inmates.*			
Total enrollment June 30, 1908	91	25	116
On leave of absence June 30, 1908	6	3	9
Present in institution June 30, 1908	85	22	107
Admitted during year	16	1	17
Total in charge during year	107	26	133
Passed out during year—			
By discharge	2		2
By death	4		4
By other manner	1		1
Total passed out	7		7
In institution June 30, 1909	86	22	108
On leave of absence June 30, 1909	14	4	18
Total enrollment June 30, 1909	100	26	126
Daily average number actually present	90	20	110
II. *Officers and Employees.*			
Average number during year of—			
Directors	5		5
Officers	4	3	7
Teachers, industrial	2	1	3
Domestics, laborers, etc.	10	4	14
Totals	21	8	29
Average number of above boarded by the institution	14	8	22
Average number of inmates to each person on salary	5.62	2.	4.58

TABLE X. INDUSTRIAL HOME FOR ADULT BLIND.

Movement of Population for the Year ending June 30, 1910.

	Male.	Female.	Total.
I. *Inmates.*			
Total enrollment June 30, 1909	100	26	126
On leave of absence June 30, 1909	14	4	18
Present in institution June 30, 1909	86	22	108
Admitted during year	14	1	15
Total in charge during year	114	27	141
Passed out during year—			
By discharge	15	6	21
By death	7	---------	7
Total passed out	22	6	28
In institution June 30, 1910	84	19	103
On leave of absence June 30, 1910	8	2	10
Total enrollment June 30, 1910	92	21	113
Daily average number actually present	92	18	110
II. *Administration.*			
Average number during year of—			
Directors	5	-------	5
Officers	4	3	7
Teachers, industrial	2	1	3
Domestics, laborers and other employees	10	4	14
Totals	21	8	29
Number of above boarded by the institution			5
Average number of inmates to each person on salary	5.75	2.25	4.58

TABLE XI. INSTITUTION FOR THE DEAF AND BLIND.

Movement of Pupils for the Year ending June 30, 1909.

	Boys.	Girls.	Total.
Pupils.			
On rolls June 30, 1908	105	100	205
Admitted during year	18	14	32
Total under instruction	123	114	237
Graduated and discharged	12	14	26
Died	1	1	2
On rolls June 30, 1909	110	99	209

Movement of Pupils for the Year ending June 30, 1910.

	Boys.	Girls.	Total.
On rolls June 30, 1909	110	99	209
Admitted during year	20	22	42
Total under instruction	130	121	251
Graduated and discharged	24	12	36
Died	----	1	1
On rolls June 30, 1910	106	108	214

TABLE XII. SAN QUENTIN STATE PRISON.

Expenditures.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Officers	$52,113 72	$51,382 36
2. Guards	52,157 99	53,275 46
Totals	$104,271 71	$104,657 82
II. *Subsistence.*		
1. Fresh meats	$30,224 10	$32,254 55
2. Salted meats and lard	2,636 76	2,963 82
3. Fish, oysters, etc.	1,276 02	1,389 30
4. Butter, eggs and poultry	3,685 55	3,906 83
5. Vegetables	7,010 45	8,240 19
6. Fresh fruits	1,199 39	921 48
7. Dried fruits	2,595 77	2,698 59
8. Canned goods	935 91	605 53
9. Breadstuffs, cereals, beans, etc.	20,842 24	26,091 24
10. Vinegar and syrup	983 88	1,062 38
11. Tea, coffee, sugar	8,085 58	7,430 01
12. Milk	2,502 12	2,301 11
13. All other food supplies	4,070 32	3,633 65
Totals	$86,648 09	$93,498 68
III. *Clothing, Etc.*		
1. Clothing	$11,673 40	$11,736 64
2. Shoes	4,882 75	4,231 21
3. Miscellaneous	----------	2,777 05
Totals	$16,556 15	$18,744 90
IV. *Office, Domestic and Outdoor Departments.*		
1. School supplies	$512 28	$161 27
2. Library, newspapers and periodicals	----------	658 95
3. Stationery and printing	1,303 79	1,211 78
4. Industrial department	41,887 56	42,980 11
5. Furniture, fixtures, bedding, etc.	4,773 86	2,841 18
6. Laundry supplies, soaps, cleansers	1,712 00	1,554 06
7. Medicines, instruments, etc.	2,015 18	1,850 03
8. Postage, telegraph and telephone charges	1,130 73	1,156 61
9. Farm, garden, stable, etc.	7,956 94	7,473 10
10. Ice	1,235 62	1,547 47
11. Tobacco	6,187 17	6,421 09
12. Music and amusements	145 94	72 22
13. Fuel	15,157 13	8,083 88
14. Light	11,500 45	11,689 20
15. Water	$6,195 37	$7,623 96
16. Expense of paroled and discharged inmates	4,391 50	4,419 47
17. All other expenses under this class	2,314 93	4,076 44
Totals	$108,420 45	$103,820 82
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$5,195 61	$4,279 43
Grand totals	$321,492 01	$325,001 65

Productions.

I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$4,663 32	$3,100 00
2. Cash received for products sold	119 05	27 60
Totals	$4,782 37	$3,127 60
3. Estimated cost of producing same	$1,756 93	$462 06
Net profits from farm	3,025 44	2,665 54

TABLE XII. SAN QUENTIN STATE PRISON—Continued.

PRODUCTIONS.

	60th fiscal year.	61st fiscal year.
II. *Manufacturing Plants.*		
1. Cost value of products on hand, end of year	$135,442 03	$78,595 33
2. Estimated value of products used	1,024 45	1,519 81
3. Cash received for products sold	136,998 52	288,854 63
4. Cost value of products destroyed by fire	52,535 51	
Totals	$326,000 51	$368,969 77
5. Cost of raw materials	$161,169 84	$150,202 51
6. Salaries and board of jute mill employees	32,503 37	31,182 69
7. Repairs and other costs	41,632 50	47,305 72
8. Cost value of products on hand beginning of year	99,148 60	135,442 03
Totals	$334,454 31	$364,132 95
Net profits of manufacturing plants		$4,836 82
Net loss of manufacturing plants	$8,453 80	

NOTE.—In this statement, the jute mill is given credit for products lost by fire, $52,535.51. This loss was originally estimated at $57,132, but there was found a salvage the year following of $4,596.49, which we have deducted from the original estimate of loss, instead of adding in as a profit to the following year.

TABLE XIII. FOLSOM STATE PRISON.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Officers	$30,190 00	$34,800 62
2. Guards	46,496 34	39,986 93
Totals	$76,686 34	$74,787 55
II. *Subsistence.*		
1. Fresh meats	$17,804 71	$16,879 44
2. Salted meats and lard	1,534 31	1,352 76
3. Fish, oysters, etc.	1,328 30	339 17
4. Butter, eggs and poultry	2,066 19	2,005 88
5. Vegetables	3,524 08	251 22
6. Dried fruits	787 99	766 24
7. Canned goods	718 77	523 55
8. Breadstuffs, cereals, beans, etc.	16,072 29	15,505 27
9. Vinegar and syrup	1,520 05	1,425 76
10. Tea, coffee, sugar	4,327 19	4,025 21
11. All other food supplies	1,920 92	9,922 23
Totals	$51,604 80	$52,996 73
III. *Clothing, Etc.*		
1. Clothing	$8,861 45	$8,482 32
2. Shoes	4,190 42	5,524 08
3. Tailor and sewing-room supplies	414 75	320 00
4. Dry goods	356 35	1,350 00
5. Miscellaneous		750 00
Totals	$13,822 97	$16,426 40

TABLE XIII. FOLSOM STATE PRISON—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
IV. *Office, Domestic and Outdoor Departments.*		
1. School supplies		$78 50
2. Stationery and printing	$400 63	890 67
3. Furniture, fixtures, bedding, etc.	2,360 21	2,389 02
4. Laundry supplies, soaps, cleansers	1,697 42	985 00
5. Medicines, instruments, etc.	1,030 69	2,024 97
6. Postage, telegraph and telephone charges	572 53	653 58
7. Transportation and freight	3,131 98	5,434 67
8. Farm, garden, stable, etc.	5,869 52	4,041 43
9. Ice	312 17	198 24
10. Tobacco	2,998 13	3,249 12
11. Fuel	9,943 47	6,487 12
12. Light	3,416 12	1,965 43
13. Expense of paroled and discharged inmates	4,023 46	4,700 74
14. All other expenses under this classification		1,593 79
Totals	$35,756 33	$34,692 28
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials		$7,242 83
VI. *Extraordinary Expenses.*		
1. Land	$200 00	
2. New buildings (*a*) materials		2,152 25
3. Permanent improvements to existing buildings	1,898 94	1,413 61
4. Miscellaneous (legal services)		7 00
Totals	$2,098 94	$6,312 86
Grand totals	$179,969 38	$192,458 65

PRODUCTIONS.

I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value products produced and used	7,869 34	$7,425 08
2. Cash received for products sold	12 64	
Totals	$7,881 98	$7,425 08
3. Estimated cost of producing same	1,800 00	2,824 68
Net profits from farm	$6,081 98	$4,600 40
II. *Manufacturing Plants. Rock Crusher.*		
1. Inventory at end of year	$23,098 21	$22,653 47
2. Cash received for products sold	7,331 91	8,035 92
Totals	$30,430 12	$30,689 39
3. Inventory beginning of year	$23,444 69	$23,098 21
4. Repairs and supplies	8,729 87	5,698 17
Totals	$32,174 56	$28,796 38
Net profits of rock crusher		$1,893 01
Net loss of rock crusher	$1,744 44	
Stone Quarry—		
Cash received	$4,498 71	$7,759,05
Net profits	$2,754 27	$9,652 06

TABLE XIV. PRESTON SCHOOL OF INDUSTRY.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Trustees	$517 25	$450 00
2. Officers	8,592 47	10,503 00
3. Teachers, literary	3,021 63	2,008 02
4. Teachers, industrial	27,603 47	37,283 81
5. Night watchmen	2,836 35	2,840 00
Totals	$42,571 17	$53,084 83
II. *Subsistence.*		
1. Salted meats and lard	$60 44	$58 60
2. Fish, oysters, etc.	26 90	26 10
3. Butter, eggs, and poultry	634 11	249 61
4. Vegetables	1,794 50	2,271 93
5. Fresh fruits	319 15	110 88
6. Dried fruits	198 52	193 63
7. Canned goods	406 81	653 25
8. Breadstuffs, cereals, beans, etc.	5,559 78	7,064 93
9. Vinegar and syrup	439 28	522 75
10. Tea, coffee, sugar	3,198 94	3,748 84
11. Milk	222 65	322 50
12. All other food supplies	1,331 84	1,587 00
Totals	$14,192 92	$16,810 02
III. *Clothing, Etc.*		
1. Clothing	$830 69	$3,847 14
2. Shoes	3,693 38	3,174 33
3. Tailor and sewing-room supplies	5,402 25	3,275 35
4. Dry goods	1,495 99	2,341 75
5. Miscellaneous	2,473 92	2,188 85
Totals	$13,896 23	$14,827 42
IV. *Office, Domestic and Outdoor Departments.*		
1. School supplies	$257 73	$301 77
2. Library, newspapers, and periodicals	81 23	390 52
3. Stationery and printing	1,141 41	1,388 62
4. Furniture, fixtures, bedding, etc.	1,718 41	2,423 88
5. Laundry supplies, soaps, and cleansers	1,120 24	1,188 19
6. Medicines, instruments, etc.	360 63	427 94
7. Postage, telegraph and telephone charges	906 02	1,160 83
8. Transportation and freight	1,575 81	3,400 25
9. Farm, garden, stable, etc.	11,042 52	14,813 81
10. Ice	743 29	781 96
11. Music and amusements	352 15	1,227 47
12. Fuel	2,242 28	3,869 41
13. Expense of paroled and discharged inmates	718 16	983 57
14. All other expenses under this classification	2,727 32	1,319 61
Totals	$24,987 10	$33,677 83
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$5,980 14	$6,465 97
VI. *Extraordinary Expenses.*		
1. Permanent improvements to existing building	$7,336 08	$5,941 61
Grand totals	$108,963 64	$130,807 68

PRODUCTIONS.

I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products, produced and used	$17,853 10	$13,908 52
2. Cash received for products sold	723 68	1,582 81
Totals	$18,576 78	$15,490 33
3. Estimated cost of producing same	11,042 52	14,813 81
Net profits from farm	$7,534 26	$676 52

TABLE XV. WHITTIER STATE SCHOOL.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Trustees	$874 60	$438 30
2. Officers	11,520 00	11,445 00
3. Teachers, literary	5,906 55	6.353 50
4. Teachers, industrial	17,951 08	19.421 82
5. Attendants		
6. Guards	11,644 90	11,635 08
7. Domestics, laborers, and other employees	3,025 00	3,340 65
Totals	$50,922 13	$52,634 35
II. *Subsistence.*		
1. Fresh meats	$3,036 92	$3,192 75
2. Salted meats and lard	1,387 92	1,504 45
3. Fish, oysters, etc.	629 21	574 94
4. Butter, eggs, and poultry	2,148 40	2,227 05
5. Vegetables	1,235 69	1,020 15
6. Fresh fruits	129 42	120 62
7. Dried fruits	469 47	244 40
8. Canned goods	415 85	431 10
9. Breadstuffs, cereals, beans, etc.	4,698 31	5,199 50
10. Vinegar and syrup	502 42	603 83
11. Tea, coffee, sugar	2,816 60	2,770 10
12. Milk	44 40	84 00
13. All other food supplies	1,708 91	1,958 42
Totals	$19,223 52	$19,931 31
III. *Clothing, Etc.*		
1. Clothing	$2,478 56	$2,637 22
2. Shoes	1,638 35	1,645 66
3. Tailor and sewing-room supplies	1,080 10	1.080 10
4. Dry goods	1,400 20	1,650 90
5. Miscellaneous	360 40	560 40
Totals	$6,957 61	$7,574 28
IV. *Office, Domestic and Outdoor Departments.*		
1. School supplies	$207 63	$439 51
2. Library, newspapers, and periodicals	405 22	471 35
3. Stationery and printing	936 26	1,136 47
4. Industrial department	6,645 60	6,745 60
5. Furniture, fixtures, bedding, etc.	2,858 86	2,574 63
6. Laundry supplies, soaps, and cleansers	1,272 67	1,323 67
7. Medicines, instruments, and ward supplies	809 94	853 41
8. Postage, telegraph and telephone charges	829 94	883 55
9. Transportation and freight	2.007 16	3,062 81
10. Farm, garden, stable, etc.	8,453 15	9,499 11
11. Ice	18 00	18 00
12. Music and amusements	782 76	635 12
13. Fuel	7,547 75	7,128 40
14. Light	1,007 63	1,654 09
15. Water	1,229 05	730 50
16. Expense of paroled and discharged inmates	2,613 93	2,531 89
17. All other expenses under this classification	602 90	1,245 28
Totals	$38,228 45	$40,933 39
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$1,941 59	$5,488 46

TABLE XV. WHITTIER STATE SCHOOL—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
VI. *Extraordinary Expenses.*		
1. Land	$30,000 00	
2. New buildings—		
(*a*) Materials	108 09	$371 25
(*b*) Labor		458 00
3. Permanent improvements to existing buildings		4,333 81
4. Miscellaneous	3,500 00	
Totals	$33,608 09	$5,163 06
Grand totals	$150,881 39	$131,724 85

PRODUCTIONS.

I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products used	$11,503 32	$9,169 42
2. Cash received for products sold	4,702 76	10,629 27
Totals	$16,206 08	$19,798 69
3. Estimated cost of producing same	11,099 58	13,688 46
Net profits from farm	$5,106 50	$6,110 23
II. *Manufacturing Plants.*		
1. Estimated value of products used	$28,826 63	$33,096 56
2. Cash received for products sold	621 86	452 60
Totals	$29,448 49	$33,549 16
3. Cost of raw materials	$14,465 86	$14,954 44
4. Paid for labor	9,988 85	15,352 47
5. Repairs and other costs	4,742 92	3,050 89
Totals	$29,197 63	$33,357 80
Net profits of manufacturing plants	$250 86	$191 36

TABLE XVI. STOCKTON STATE HOSPITAL.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries, and Wages.*		
1. Managers	$1,541 20	$1,546 10
2. Officers	20,847 00	25,303 27
3. Attendants	70,380 00	76,720 00
4. Domestics, laborers, etc.	33,290 71	35,800 00
Totals	$126,058 91	$139,369 37
II. *Subsistence.*		
1. Fresh meats	$22,625 68	$19,162 58
2. Salted meats and lard	2,421 22	2,800 98
3. Fish, oysters, etc.	3,459 66	4,006 03
4. Butter, eggs, and poultry	17,598 97	20,498 10
5. Vegetables	1,063 68	800 66
6. Fresh fruits	1,777 44	1,558 62
7. Dried fruits	1,120 00	1,462 00
8. Canned goods	1,200 00	1,300 00
9. Breadstuffs, cereals, beans, etc.	22,275 70	21,828 02
10. Vinegar and syrup	3,464 64	3,489 90
11. Tea, coffee, sugar	7,485 73	7,993 99
12. All other food supplies	3,523 71	5,471 20
Totals	$88,016 43	$90,372 08

TABLE XVI. STOCKTON STATE HOSPITAL—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
III. *Clothing, etc.*		
1. Clothing	$7,452 75	$8,140 02
2. Shoes	2,754 71	2,789 84
3. Dry goods	7,344 89	9,066 14
Totals	$17,552 35	$19,996 00
IV. *Office, Domestic, and Outdoor Departments.*		
1. Stationery and printing	$338 64	$488 65
2. Furniture, fixtures, bedding, etc.	10,876 30	13,732 37
3. Laundry supplies, soaps, cleansers	2,544 74	2,766 43
4. Medicines, instruments, ward supplies	2,950 71	2,578 71
5. Postage, telegraph and telephone charges	970 57	1,109 93
6. Transportation and freight	737 60	1,106 04
7. Farm, garden, stable, etc.	8,721 88	10,387 68
8. Tobacco	2,954 05	3,122 60
9. Music and amusements	252 00	309 90
10. Fuel	11,889 53	13,396 47
11. Light	2,261 82	2,951 66
12. Water	120 00	128 00
13. All other expenses under this classification	1,748 55	3,585 57
Totals	$46,366 39	$55,664 01
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$12,276 20	$18,076 47
2. Labor	1,426 89	5,070 00
Totals	$13,703 09	$23,146 47
Grand totals	$291,697 17	$328,548 03

PRODUCTIONS.

	60th fiscal year.	61st fiscal year.
I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$11,952 59	$28,617 96
2. Estimated cost of producing same	7,730 08	14,065 00
Net profits from farm	$4,222 51	$14,552 96
II. *Manufacturing Plants.*		
1. Estimated value of products used	$5,934 30	6,685 25
2. Cost of raw materials	$2,698 94	$2,649 19
3. Paid for labor	1,500 00	1,620 00
4. Repairs and other costs	180 00	200 00
Total cost	$4,378 94	$4,469 19
Net profits of manufacturing plants	$1,555 36	$2,216 06

TABLE XVII. NAPA STATE HOSPITAL.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Managers	$1,367 50	$1,459 55
2. Officers	15,807 96	16,858 00
3. Attendants, guards, domestics, laborers	107,460 78	114,750 64
Totals	$124,636 24	$133,068 19
II. *Subsistence.*		
1. Fresh meats	$24,891 20	$23,999 41
2. Salted meats and lard	5,327 27	6,135 48
3. Fish, oysters, etc.	1,684 88	1,964 64
4. Butter, eggs, and poultry	10,341 59	10,694 37
5. Vegetables	4,033 87	4,876 37
6. Fresh and dried fruits	823 87	1,003 58
7. Breadstuffs, cereals, beans, etc.	17,073 29	19,776 62
8. Vinegar and syrup	3,371 35	3,180 41
9. Tea, coffee, sugar	7,936 50	8,407 72
10. All other food supplies	5,827 90	5,024 30
Totals	$81,311 72	$85,062 90
III. *Clothing.*		
1. Clothing	$1,182 19	$1,534 86
2. Shoes	2,266 15	2,487 59
3. Dry goods	9,650 12	12,018 31
4. Miscellaneous	1,090 85	
Totals	$14,189 31	$16,040 76
IV. *Office, Domestic and Outdoor Departments.*		
1. Stationery and printing	$353 46	$470 53
2. Industrial department		2,440 37
3. Furniture, fixtures, bedding, etc.	1,964 86	2,258 18
4. Laundry supplies, soaps, cleansers	2,800 52	3,161 09
5. Medicines, instruments, ward supplies	2,477 07	3,262 76
6. Postage, telegraph, and telephone charges	1,480 76	1,624 69
7. Transportation and freight	658 09	648 07
8. Farm, garden, stable, etc.	2,488 04	3,788 77
9. Ice	43 00	
10. Tobacco	2,608 31	2,629 64
11. Music and amusements	120 00	194 85
12. Fuel	20,019 49	14,296 77
13. Light		6,020 00
14. Expense of paroled and discharged inmates		179 05
15. All other expenses under this classification		3,091 47
Totals	$35,013 60	$44,066 24
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$12,502 68	$13,720 57
2. Labor		5,160 00
Totals	$12,502 68	$18,880 57
VI. *Extraordinary Expenses.*		
1. New building—		
(*a*) Materials	$38,678 93	
(*b*) Labor	8,063 69	
Totals	$46,742 62	
Grand totals	$314,396 17	$297,118 65

TABLE XVII. NAPA STATE HOSPITAL—Continued.

PRODUCTIONS.

	60th fiscal year.	61st fiscal year.
I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$39,330 87	$39,696 24
2. Cash received for products sold	720 92	1,919 73
Totals	$40,051 79	$41,615 97
3. Estimated cost of producing same	18,887 86	17,986 65
Net profits from farm	$21,163 93	$23,629 32

TABLE XVIII. AGNEWS STATE HOSPITAL.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Managers	$2,051 71	$1,882 26
2. Officers	20,022 45	20,631 33
3. Attendants	30,511 74	29,823 61
4. Guards	921 67	1,320 00
5. Domestics, laborers, and other employees	25,363 33	26,704 22
Totals	$78,870 90	$80,361 42
II. *Subsistence.*		
1. Fresh meats	$11,320 42	$9,778 78
2. Salted meats and lard	1,335 52	1,406 13
3. Fish, oysters, etc.	1,669 21	1,819 38
4. Butter, eggs, and poultry	6,273 41	6,294 00
5. Vegetables	3,081 84	1,533 41
6. Fresh fruits	281 18	125 15
7. Dried fruits	1,023 46	715 49
8. Canned goods	1,148 62	1,374 72
9. Breadstuffs, cereals, beans, etc.	7,702 65	7,028 14
10. Vinegar and syrup	1,177 45	1,015 12
11. Tea, coffee, sugar	2,761 90	2,510 06
12. All other food supplies	1,277 20	1,279 77
Totals	$39,049 86	$34,880 15
III. *Clothing, Etc.*		
1. Clothing	$2,531 87	$2,590 77
2. Shoes	895 86	1,395 18
3. Tailor and sewing-room supplies	144 20	130 11
4. Dry goods	1,873 03	2,734 00
5. Miscellaneous	825 40	425 26
Totals	$6,270 36	$7,275 32
IV. *Office, Domestic and Outdoor Departments.*		
1. Library, newspapers, and periodicals	----------	$5 00
2. Stationery and printing	$176 93	195 67
3. Furniture, fixtures, bedding, etc.	1,651 28	5,143 06
4. Laundry supplies, soaps, cleansers	1,328 91	1,532 00
5. Medicines, instruments, etc.	939 62	802 87
6. Postage, telegraph and telephone charges	593 73	457 62
7. Transportation and freight	162 51	297 70
8. Farm, garden, stable, etc.	7,914 15	14,392 93
9. Ice	199 95	84 00
10. Tobacco	1,317 48	1,249 20
11. Music and amusements	300 02	549 72
12. Fuel	15,672 36	13,695 04
13. Light	233 64	221 45
14. Expense of paroled and discharged inmates	12 30	7 15
15. All other expenses under this classification	1,129 30	2,447 61
Totals	$31,632 18	$41,081 02

TABLE XVIII. AGNEWS STATE HOSPITAL—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$1,441 07	$569 93
2. Labor (unpaid labor not included)	201 60	253 50
Totals	$1,642 67	$823 43
VI. *Extraordinary Expenses.*		
1. New buildings—		
(*a*) Materials	$282,322 79	$83,902 40
(*b*) Labor (unpaid labor not included)	231,592 59	37,202 66
2. Miscellaneous	10,746 32	45,149 48
Totals	$524,661 70	$166,254 54
Grand totals	$682,127 67	$330,675 88

PRODUCTIONS.

	60th fiscal year.	61st fiscal year.
I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$16,996 46	$16,010 06
2. Cash received for products sold	521 80	461 73
Totals	$17,518 26	$16,471 79
3. Estimated cost of producing same	14,712 64	14,304 47
Net profits from farm	$2,805 62	$2,167 32

TABLE XIX. MENDOCINO STATE HOSPITAL.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Managers	$1,075 80	$1,068 75
2. Officers	14,340 00	16,308 00
3. Attendants	48,646 95	17,940 00
4. Guards		34,989 58
5. Domestics, laborers, etc.		
Totals	$64,062 75	$70,306 33
II. *Subsistence.*		
1. Fresh meats	$8,872 23	$9,814 61
2. Salted meats and lard	444 31	796 65
3. Fish, oysters, etc.	1,366 14	1,831 01
4. Butter, eggs, and poultry	4,661 48	5,382 21
5. Vegetables	2,328 15	2,808 23
6. Fresh and dried fruits	1,179 76	1,865 55
7. Canned goods	1,199 63	1,437 47
8. Breadstuffs, cereals, beans, etc.	7,987 60	9,190 86
9. Vinegar and syrup	1,366 22	1,176 86
10. Tea, coffee, sugar	2,700 06	2,966 01
11. All other food supplies	1,341 69	1,825 67
Totals	$33,447 27	$39,095 13
III. *Clothing, Etc.*		
1. Clothing	$3,245 17	$3,569 49
2. Shoes	1,589 72	1,679 99
3. Dry goods	1,558 15	1,956 60
Totals	$6,393 04	$7,206 08

TABLE XIX. MENDOCINO STATE HOSPITAL—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
IV. *Office, Domestic and Outdoor Departments.*		
1. Library, newspapers, stationery, printing	$393 46	$626 23
2. Furniture, fixtures, bedding, etc.	3,735 59	7,030 03
3. Laundry supplies, soaps, cleansers	1,333 99	1,426 73
4. Medicines, instruments, etc.	1,079 93	1,264 33
5. Postage, telegraph and telephone charges	581 49	674 11
6. Transportation and freight	468 92	777 64
7. Farm, garden, stable, etc.	5,327 90	6,879 92
8. Tobacco	1,748 01	1,761 59
9. Music and amusements	149 75	555 15
10. Fuel	12,214 94	12,647 38
11. Light	751 93	2,975 89
12. Expense of paroled and discharged inmates	369 50	422 10
13. All other expenses under this classification	90 95	324 58
Totals	$28,246 36	$37,365 68
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$3,212 38	$6,778 83
VI. *Extraordinary Expenses.*		
1. Land		$300 00
2. New buildings—		
(*a*) Materials	$24,653 15	10,120 43
(*b*) Labor	9,516 80	
3. Permanent improvements to existing buildings		10,000 00
4. Miscellaneous		8,257 69
Totals	4,169 95	$28,678 12
Grand totals	$169,531 75	$189,430 17

PRODUCTIONS.

	60th fiscal year.	61st fiscal year.
I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$19,558 74	$22,583 46
2. Cash received for products sold		15 00
Totals	$19,558 74	$22,598 46
3. Estimated cost of producing same	10,873 44	16,629 04
Net profits from farm	$8,685 30	$5,969 42

TABLE XX. SOUTHERN CALIFORNIA STATE HOSPITAL.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Managers	$1,447 04	$1,437 60
2. Officers	18,480 00	21,846 00
3. Attendants	39,600 26	45,311 63
4. Domestics, laborers, and other employees	23,424 00	23,736 00
Totals	$82,951 30	$92,331 23
II. *Subsistence.*		
1. Fresh meats	$10,922 10	$11,011 08
2. Salted meats and lard	1,394 72	2,341 48
3. Fish, oysters, etc.	1,554 60	1,285 61
4. Butter, eggs, and poultry	12,562 98	12,456 15
5. Vegetables		4,426 37
6. Fresh fruits	40 00	60 00
7. Dried fruits	2,437 20	2,344 52
8. Canned goods	442 61	1,122 52
9. Breadstuffs, cereals, beans, etc.	13,051 36	16,140 54
10. Vinegar and syrup	1,956 42	2,015 23
11. Tea, coffee, sugar	4,667 58	5,645 67
12. All other food supplies	8,399 16	4,301 87
Totals	$57,448 73	$63,151 04
III. *Clothing, Etc.*		
1. Clothing	$4,153 36	$4,545 22
2. Shoes	1,817 16	2,033 12
3. Tailor and sewing-room supplies	583 40	269 67
4. Dry goods	1,752 80	3,092 16
5. Miscellaneous	113 04	87 35
Totals	$8.419 76	$10,027 52
IV. *Office, Domestic and Outdoor Departments.*		
1. Library, newspapers, and periodicals		$43 60
2. Stationery and printing	$876 86	905 55
3. Furniture, fixtures, bedding, etc.	7,977 12	7.534 12
4. Laundry supplies, soaps, cleansers	2,184 79	3,325 39
5. Medicines, instruments, etc.	3,777 51	2,814 61
6. Postage, telegraph and telephone charges	860 53	900 26
7. Transportation and freight	1,036 85	371 90
8. Farm, garden, stable, etc.	11,112 90	11,265 51
9. Tobacco	1,283 71	1,445 70
10. Music and amusements	97 50	377 50
11. Fuel	10,009 98	12,453 82
12. Light	5,594 55	5,875 48
13. Water	1,184 60	2,102 20
14. Expenses of paroled and discharged inmates	327 50	203 60
15. All other expenses under this classification	6,087 03	4,803 66
Totals	$52.411 43	$54,422 90
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$7,792 03	$9.603 80
2. Labor (unpaid labor not included)	102 00	6,000 00
Totals	$7,894 03	$15,603 80
VI. *Extraordinary Expenses.*		
1. New buildings—		
(*a*) Materials	$17,127 01	$104,569 00
(*b*) Labor (unpaid labor not included)		2,812 30
2. Permanent improvements to existing buildings	31,868 15	33.265 81
3. Miscellaneous	2,539 37	34,650 73
Totals	$51,534 53	$175,297 84
Grand totals	$260,659 78	$410,834 33

TABLE XX. SOUTHERN CALIFORNIA STATE HOSPITAL—Continued.

PRODUCTIONS.

	60th fiscal year.	61st fiscal year.
I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$24,335 89	$30,852 21
2. Cash received for products sold	7,672 60	7,473 23
Totals	$32,008 49	$38,325 44
3. Estimated cost of producing same	18,214 50	19,319 87
Net profits from farm	$13,793 99	$19,005 57

TABLE XXI. SONOMA STATE HOME.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Managers	$1,488 94	$1,432 90
2. Officers	12,108 00	16,128 00
3. Teachers, literary	1,630 00	1,350 00
4. Attendants	45,180 00	47,098 00
5. Guards	600 00	600 00
6. Domestics, laborers, etc.	8,292 46	8,324 00
Totals	$69,299 40	$74,932 90
II. *Subsistence.*		
1. Fresh meats	$6,840 23	$7,337 02
2. Salted meats and lards	1,279 43	1,197 11
3. Fish, oysters, etc.	792 96	835 23
4. Butter, eggs, and poultry	4,242 02	4,407 24
5. Vegetables	3,346 48	3,333 06
6. Fresh and dried fruits	176 48	226 27
7. Canned goods	597 44	----------
8. Breadstuffs, cereals, beans, etc.	7,844 11	8,974 00
9. Vinegar and syrup	376 18	368 80
10. Tea, coffee, sugar	3,223 11	3,495 77
11. All other food supplies	3,286 35	2,935 85
Totals	$32,004 99	$33,110 35
III. *Clothing, Etc.*		
1. Clothing	$2,301 80	$3,126 67
2. Shoes	545 12	1,391 71
3. Dry goods, tailor and sewing-room supplies	2,439 68	2,771 04
Totals	$5,286 60	$8,910 09
IV. *Office, Domestic and Outdoor Departments.*		
1. School supplies	$200 00	$368 89
2. Library, newspapers, and periodicals	168 29	
3. Stationery and printing	200 00	
4. Industrial department	1,298 73	1,971 50
5. Furniture, fixtures, bedding, etc.	5,537 77	4,903 27
6. Laundry supplies, soaps and cleansers	2,191 79	2,425 27
7. Medicines, instruments, ward supplies	1,427 75	2,104 77
8. Postage, telegraph and telephone charges	684 71	776 51
9. Transportation and freight	380 05	380 53
10. Farm, garden, stable, etc.	9,251 85	10,568 44
11. Ice	567 32	621 90
12. Music and amusements	283 00	----------
13. Fuel	11,117 19	14,566 84
14. Light	225 45	447 65
15. Expense of paroled and discharged inmates	163 25	440 53
16. All other expenses under this classification	746 77	1,444 42
Totals	$34,443 92	$41,020 49

TABLE XXI. SONOMA STATE HOME—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$2,651 55	$1,690 66
2. Labor	1,943 84	1,810 98
Totals	$4,595 39	$3,501 64
VI. *Extraordinary Expenses.*		
1. Land, new buildings, improvements, etc.	$105,500 00	
Grand totals	$251,130 30	$161,475 47

PRODUCTIONS.

I. *Farm, Garden, Orchard, Etc.*		
1. Estimated value of products produced and used	$15,857 49	$19,073 89
2. Cash received for products sold		1,282 40
Totals	$15,857 49	$20,356 29
3. Estimated cost of producing same	13,251 85	16,176 91
Net profits from farm	$2,605 64	$4,179 38

TABLE XXII. INDUSTRIAL HOME FOR ADULT BLIND.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Officers	$5,880 00	$5,880 00
2. Teachers, industrial	1,020 00	1,020 00
3. Domestics, laborers, and other employees	4,502 00	4,502 00
Totals	$11,402 00	$11,402 00
II. *Subsistence.*		
1. Fresh meats	$2,206 16	$2,220 05
2. Salted meats and lard	490 39	296 04
3. Fish, oysters, etc.	250 50	510 83
4. Butter, eggs, and poultry	1,559 84	1,638 32
5. Vegetables	1,107 66	437 47
6. Fresh fruits	129 53	128 15
7. Dried fruits	102 31	62 13
8. Canned goods	158 70	143 60
9. Breadstuffs, cereals, beans, etc	1,021 28	957 20
10. Vinegar and syrup	18 80	16 28
11. Tea, coffee, sugar	1,019 97	983 81
12. Milk	802 40	921 60
13. All other food supplies	596 32	2,759 93
Totals	$9,463 86	$11,095 41
III. *Clothing, Etc.*		
1. Clothing	$3 60	$34 28
2. Shoes	7 65	
3. Tailor and sewing-room supplies	8 16	
4. Dry goods		132 83
Totals	$19 41	$167 11

TABLE XXII. INDUSTRIAL HOME FOR ADULT BLIND—Continued.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
IV. *Office, Domestic and Outdoor Departments.*		
1. Stationery and printing	$49 50	$34 50
2. Furniture, fixtures, bedding, etc.	392 83	299 08
3. Laundry supplies, soaps, cleansers	2,127 55	2,128 08
4. Medicines, instruments, etc.	345 40	368 71
5. Postage, telegraph and telephone charges	162 65	178 90
6. Transportation and freight	571 22	830 21
7. Fuel	951 91	1,086 08
8. Light	397 58	340 40
9. Water	224 46	248 85
Totals	$5,223 10	$5,514 81
V. *Ordinary Repairs and Minor Improvements.*		
1. Materials	$642 98	$1,629 84
2. Labor	4 85	
Totals	$647 83	$1,629 84
VI. *Extraordinary Expenses.*		
1. New buildings	$50,000 00	$3,500 00
2. Miscellaneous		8,655 00
Totals	$50,000 00	$12,155 00
Grand totals	$76,756 20	$41,964 17

PRODUCTIONS.

	0th fisca year.	61st fiscal year.
I. *Manufacturing Plants.*		
1. Cash received for products sold	$21,427 01	$28,572 54
2. Cost of raw materials	$15,219 19	$22,542 24
3. Paid for labor	4,802 15	4,874 65
Totals	$20,021 34	$27,416 89
Net profits of manufacturing plant	$1,405 67	$1,155 65

TABLE XXIII. INSTITUTION FOR THE DEAF AND BLIND.

EXPENDITURES.

	60th fiscal year.	61st fiscal year.
I. *Administration, Salaries and Wages.*		
1. Officers	$9,190 00	$9,564 05
2. Teachers, literary	22,844 90	23,410 20
3. Teachers, industrial	1,563 35	1666 66
4. Domestics, laborers, etc.	9,620 54	10,449 95
Totals	$43,218 79	$45,090 86
II. *Subsistence*	$10,083 36	$10,726 66
III. *Clothing, Etc.*	$78 13	$27 15
IV. *Office, Domestic and Outdoor Departments.*		
1. Industrial department	$64 76	$72 55
2. Furniture, fixtures, etc.	1,089 24	943 86
3. Laundry supplies, soaps, cleansers	1,625 74	1,657 93
4. Farm, garden, stable, etc.	3,289 32	3,731 97
5. Fuel and light	5,578 35	5,895 94
6. All other expenses under this class	1,821 11	2,387 81
Totals	$13,468 52	$14,690 06
V. *Ordinary Repairs and Minor Improvements*	$1,448 08	$1,562 41
Grand totals	$68,899 88	$72,097 14
II. *Manufacturing Plants.*		
Cash received for products sold	$718 25	$529 50
Cost of raw materials	249 75	159 50
Net profits of manufacturing plants	$468 50	$370 00

TABLE XXIV. STATE INSTITUTIONS.

Cost of Maintenance for the Sixtieth Fiscal Year.

Institutions.	Salaries.	Support.	Ordinary repairs.	Total.	Average number of inmates.	Annual cost per capita.	Daily cost per capita.
State Prison, San Quentin	$104,271 71	$211,624 69	$5,195 61	$321,092 01	1,730	$185 61	$0.508
State Prison, Folsom	76,686 34	101,184 10		177,870 44	1,014	175 41	0.48
Total state prisons	$180,958 05	$312,808 79	$5,195 61	$498,962 45	2,744	$182 20	$0.499
Preston School of Industry	$42,053 92	$53,593 50	$5,980 14	$101,627 56	361	$281 52	$0.771
Whittier State School	50,047 53	65,284 18	1,941 59	117,273 30	340	344 92	0.945
Total reform schools	$92,101 45	$118,877 68	$7,921 73	$218,900 86	701	$312 27	$0.856
Stockton State Hospital	$124,517 71	$153,476 37	$13,703 09	$291,697 17	1,907	$152 96	$0.419
Napa State Hospital	123,268 74	131,882 13	12,502 68	267,653 55	1,802	148 53	0.407
Agnews State Hospital	76,819 19	79,004 11	1,642 67	157,465 97	706	223 04	0.611
Mendocino State Hospital	62,986 95	69,162 47	3,212 38	135,361 80	835	162 11	0.444
Southern California State Hospital	81,504 26	119,726 96	7,894 03	209,125 25	1,123	186 22	0.51
Total insane hospitals	$469,096 85	$553,252 04	$38,954 85	$1,061,303 74	6,373	$166 53	$0.459
Sonoma State Home	$67,810 46	$73,224 45	$4,595 39	$145,630 30	723	$201 43	$0.552
Home for Adult Blind	11,402 00	14,706 37	647 83	26,756 20	110	243 24	0.666
Institution for Deaf and Blind	43,218 79	24,230 10	1,448 08	68,896 97	237	290 70	0.796
Grand totals	$864,587 60	$1,097,099 43	$58,763 49	$2,020,450 52	10,888	$185 57	$0.508

NOTE.—The per diem and expenses of trustees, directors, and managers are paid out of appropriation for support.

TABLE XXV. STATE INSTITUTIONS.

Cost of Maintenance for the Sixty-first Fiscal Year.

Institutions.	Salaries.	Support.	Ordinary repairs.	Total.	Average number of inmates.	Annual cost per capita.	Daily cost per capita.
State Prison, San Quentin	$104,657 82	$216,064 40	$4,279 43	$325,001 65	1,832	$177 40	$0.486
State Prison, Folsom	74,787 55	104,115 51	7,242 83	186,145 89	1,012	183 94	0.504
Total state prisons	$179,445 37	$320,179 91	$11,522 26	$511,147 54	2,844	$179 74	$0.492
Preston School of Industry	$52,634 83	$65,765 27	$6,465 97	$124,866 07	393	$317 72	$0.87
Whittier State School	52,196 05	69,057 28	5,488 46	126,741 79	363	349 12	0.956
Total reform schools	$104,830 88	$134,822 55	$11,954 43	$251,607 86	756	$332 81	$0.912
Stockton State Hospital	$137,823 37	$167,578 19	$23,146 47	$328,548 03	1,956	$167 97	$0.46
Napa State Hospital	131,608 64	146,629 45	18,880 57	297,188 66	1,850	160 04	0.439
Agnews State Hospital	78,479 16	85,118 75	823 43	164,421 34	694	236 92	0.649
Mendocino State Hospital	69,337 58	84,735 64	6,778 83	160,852 05	871	184 56	0.506
Southern California State Hospital	90,893 63	149,715 26	15,603 80	256,212 69	1,297	197 54	0.54
Total insane hospitals	$508,142 38	$633,777 29	$65,233 10	$1,207,152 77	6,668	$181 02	$0.496
Sonoma State Home	$73,500 00	$84,473 83	$3,501 64	$161,475 47	807	$200 09	$0.548
Home for Adult Blind	11,402 00	16,777 33	1,629 84	29,809 17	110	270 99	0.742
Institution for Deaf and Blind	45,090 86	25,443 87	1,562 41	72,097 14	251	287 63	0.788
Grand totals	$922,411 49	$1,215,474 78	$95,403 68	$2,233,289 95	11,436	$195 29	$0.535

NOTE.—The per diem and expenses of trustees, directors, and managers are paid out of appropriation for support.

TABLE XXVI.

Daily Average Number of Inmates Present in State Institutions for the Past Seven Years and Estimates for the Next Three Years.

Institutions.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.	1909-10.	1910-11.	1911-12.	1912-13.
State Prison, San Quentin	1,495	1,510	1,544	1,570	1,620	1,730	1,832	1,920	2,020	2,120
State Prison, Folsom	820	989	1,062	1,024	992	1,014	1,012	1,020	1,030	1,040
Total state prisons	2,315	2,499	2,606	2,594	2,612	2,744	2,844	2,940	3,050	3,160
Preston School of Industry	116	163	203	209	292	361	393	400	410	420
Whittier State School	300	325	304	279	300	340	363	375	390	400
Total reform schools	416	488	507	488	592	701	756	775	800	820
Stockton State Hospital	1,644	1,667	1,729	1,836	1,849	1,907	1,956	2,010	2,050	2,100
Napa State Hospital	1,471	1,482	1,505	1,592	1,690	1,802	1,850	1,910	1,950	1,990
Agnews State Hospital	1,034	1,045	1,005	752	718	706	694	730	820	920
Mendocino State Hospital	623	650	676	716	780	835	871	925	975	1,025
Southern California State Hospital	739	823	850	925	996	1,123	1,297	1,410	1,550	1,690
Total insane hospitals	5,511	5,667	5,765	5,821	6,033	6,373	6,668	6,985	7,345	7,725
Sonoma State Home	520	535	565	596	655	723	807	910	1,000	1,100
Home for Adult Blind	129	112	110	106	110	110	110	110	120	125
Institution for Deaf and Blind				242	241	237	251	255	260	265

TABLE XXVII.

Institutions.	Average number present.				Annual per capita—Maintenance.				Annual per capita—Support.			
	Fiscal year.				Fiscal year.				Fiscal year.			
	58th.	59th.	60th.	61st.	58th.	59th.	60th.	61st.	58th.	59th.	60th.	61st.
State Prison, San Quentin	1,570	1,620	1,730	1,832	$163 00	$181 21	$185 61	$177 40	$100 60	$119 12	$122 33	$117 94
State Prison, Folsom	1,024	992	1,014	1,012	153 35	174 49	175 41	183 94	75 70	93 19	99 79	102 88
Preston School of Industry	209	292	361	393	288 11	262 13	281 52	317 72	154 34	147 78	148 46	167 36
Whittier State School	279	300	340	363	386 61	366 22	344 92	349 12	207 86	197 00	192 01	190 24
Stockton State Hospital	1,836	1,849	1,907	1,956	131 38	157 15	152 96	167 97	73 15	84 50	80 48	85 67
Napa State Hospital	1,593	1,696	1,802	1,850	141 46	162 62	148 53	160 04	74 34	82 82	73 19	79 25
Agnews State Hospital	752	718	706	694	217 84	212 88	223 04	236 92	120 24	108 14	110 90	122 65
Mendocino State Hospital	716	780	835	871	160 97	181 24	162 11	184 54	86 31	98 42	82 83	97 29
Southern California State Hospital	925	996	1,123	1,297	172 26	183 33	186 22	197 54	106 52	100 38	106 62	115 43
Sonoma State Home	596	655	723	807	196 28	209 69	201 43	200 09	111 86	105 54	101 28	104 68
Industrial Home Adult Blind	106	110	110	110	262 29	274 60	243 24	270 99	174 54	165 72	152 79	171 61
Institution Deaf and Blind	--------	--------	237	251	--------	--------	290 70	287 63	--------	--------	102 20	101 37

STATE INSTITUTIONS.

Showing the Income Received, or Contingent Fund.

	60th fiscal year.	61st fiscal year.	Total.
State Prison at San Quentin[1]	$17,899 73	$15,722 64	$33,622 37
State Prison at Folsom[2]	19,166 40	23,674 11	42,840 51
Preston School of Industry[3]	895 90	2,291 13	3,187 03
Whittier State School[3]	5,207 57	9,891 98	15,099 55
Stockton State Hospital[4]	26,267 89	25,279 90	51,547 79
Napa State Hospital[4]	40,817 88	49,659 99	90,479 87
Agnews State Hospital[4]	15,340 47	16,740 62	32,081 09
Mendocino State Hospital[4]	12,973 99	14,760 25	27,734 22
Southern California State Hospital[4]	33,654 41	44,219 34	77,873 75
Sonoma State Home[5]	9,794 23	11,698 47	21,492 70
Home for Adult Blind[6]	1,405 67	1,155 65	2,561 32
Institution for Deaf and Blind[7]	6,690 66	5,806 08	12,496 74

[1] The receipts from the sale of jute products are paid into the state treasury and go into the state general fund after the jute revolving fund has been reimbursed to the limit of $200,000.

[2] The Folsom Prison fund is made up of the sales of crushed rock for road purposes, and granite for building purposes, after the rock crusher revolving fund has been reimbursed to the limit of $5,000.

[3] The contingent fund of the reform schools is made up from the commissary's sales of products.

[4] The contingent fund of the state hospitals is made up from money collected for pay patients, and a small part from commissary's sales.

[5] The contingent fund of the Sonoma State Home is made up from money received for the care of patients from relatives, and a small part from commissary sales. The money paid by the various counties for the care of indigent inmates is paid into the state general fund.

[6] The contingent fund for the Home for Adult Blind is made up from profits of the manufacturing plant.

[7] The contingent fund of the Institution for the Deaf and Blind is made up from amounts paid in behalf of pupils.

STATE INSTITUTIONS.

Summary of Statistics for the Year Ending June 30, 1909.

(Prepared in conformity to a resolution adopted by the National Conference of Charities and Corrections.)

MOVEMENT OF POPULATION.

	Male.	Female.	Total.
Number of inmates present July 1, 1908	7,787	2,846	10,633
Number temporarily absent July 1, 1908	688	204	892
Number received during the year	2,830	838	3,668
Number passed out during the year	2,429	674	3,103
Number present June 30, 1909	8,180	3,009	11,189
Number temporarily absent June 30, 1909	755	202	957
Daily average attendance during the year	7,952.5	2,935.5	10,888
Average number of officers and employees during the year	980	336	1,316

EXPENDITURES.

Current Expenses.	
1. Salaries and wages	$874,951 64
2. Clothing	109,441 92
3. Subsistence	522,495 55
4. Ordinary repairs and minor improvements	58,763 49
5. Office, domestic, and outdoor expenses	454,797 92
	$2,020,450 52
Extraordinary Expenses.	
1. New buildings, land, etc.*	$811,000 00
2. Permanent improvements to existing buildings	41,103 17
3. Miscellaneous	50,287 69
	$902,390 86
Grand total	$2,922,841 38

STATE INSTITUTIONS.

Summary of Statistics for the year ending June 30, 1910.

(Prepared in conformity to a resolution adopted by the National Conference of Charities and Corrections.)

MOVEMENT OF POPULATION.

	Male.	Female.	Total.
Number of inmates present July 1, 1909	8,175	3,010	11,185
Number temporarily absent July 1, 1909	757	202	959
Number received during the year	2,996	1,011	4,007
Number passed out during the year	2,662	808	3,470
Number present June 30, 1910	8,515	3,215	11,730
Number temporarily absent June 30, 1910	916	234	1,150
Daily average attendance during the year	8,305	3,116	11,421
Average number of officers and employees during the year	1,019	349	1,368

EXPENDITURES.

Current Expenses.	
1. Salaries and wages	$932,026 85
2. Clothing	127,223 03
3. Subsistence	582,302 22
4. Ordinary repairs and minor improvements	94,403 68
5. Office, domestic, and outdoor expenses	497,334 19
Total	$2,233,289 95
*Extraordinary Expenses.**	
1. New buildings, land, etc.	$781,000 00
2. Permanent improvements to existing buildings	54,954 84
3. Miscellaneous	99,459 90
Total	$935,314 74
Grand total	$3,168,604 69

Approximate.

APPROPRIATIONS MADE FOR STATE INSTITUTIONS FOR THE SIXTY-FIRST AND SIXTY-SECOND FISCAL YEARS.

San Quentin State Prison—

Support	$430,500 00
Salaries	210,000 00
Printing	2,500 00
Cottages for guards	20,000 00
Repairs of buildings	5,000 00

Folsom State Prison—

Support	$196,000 00
Salaries	160,800 00
Printing	2,500 00
Boiler for kitchen	2,500 00
Additional houses for officers	3,500 00
Completion of hospital	39,000 00
Repairs of buildings	1,500 00
Residence of warden	12,000 00

For discharged prisoners	$8,000 00

Preston School of Industry—

Support	$133,000 00
Salaries	111,000 00
Assembly hall and gymnasium	6,250 00
Bedding and furniture	7,500 00
Two cottages	20,000 00
Equipment of trades building	5,000 00
Heating and power station	25,000 00
Brick machine	1,000 00
Reservoir	6,000 00
Refectory building	20,000 00
Library	750 00

Whittier State School—

Support	$115,000 00
Salaries	105,000 00
Expenses of parole officer	5,000 00
Boiler	2,500 00
Books	1,000 00
Land	30,000 00
Linotype	3,500 00
Piano	350 00
Printing press	1,800 00
Repairs of main building	3,500 00
Cottage	10,000 00
Manual training building	5,000 00

Stockton State Hospital—

Support	$315,000 00
Salaries	295,000 00
Construction of laundry	12,000 00
Construction of tunnel	1,400 00
Electric light plant	2,000 00
Equipment of receiving ward	6,000 00
Convalescent cottage	35,000 00
Telephone system	3,000 00
Water tower	25,000 00

Napa State Hospital—

Support	$294,000 00
Salaries	285,000 00
Completion of receiving building	35,000 00
Completion of water system	25,000 00
Cottages for women	40,000 00
Cottages for men	12,000 00
Remodeling of kitchen	8,000 00

Agnews State Hospital—

Support	$203,000 00
Salaries	201,000 00
Reconstruction	125,000 00
Reconstruction	215,000 00

APPROPRIATIONS SIXTY-FIRST AND SIXTY-SECOND FISCAL YEARS—Continued.

Mendocino State Hospital—	
Support	$205,000 00
Salaries	145,000 00
Addition to kitchen	10,000 00
Completion of cottage	12,500 00
Dairy barn	5,000 00
Laundry machinery	2,500 00
Southern California State Hospital—	
Support	$265,000 00
Salaries	190,000 00
Addition to dining-room	13.750 00
Bungalow for assistant physician	4,500 00
Completion of two receiving cottages	15,000 00
Cottage for females	20,000 00
Cottage for females	40,000 00
Enlarging laundry	5,000 00
Storm drains	14,000 00
Sonoma State Home—	
Support	$176,000 00
Salaries	155,000 00
Completion of manor house	5,000 00
Enlarging and repairing of hospital	7,500 00
Addition to main building	75,000 00
Fencing	2,000 00
Furnishing manor house	2,500 00
Gymnasium for boys	10,000 00
Improving power house	15,000 00
Purchase of fire apparatus	367 67
Purchase of laundry machinery	5,000 00
Developing water supply	5,000 00
Addition to kitchen and repairs	15,000 00
Institution for Deaf and Blind—	
Support	$45,500 00
Salaries	94,500 00
Printing	600 00
General repairs	13,144 00
Industrial Home for Adult Blind—	
Support	$40,000 00
Salaries	26,000 00
Printing	400 00
Improvements to plant and grounds	12,155 00

TABLE XXVIII. COUNTY JAILS.

Population, December 31, 1908.

Counties.	Awaiting trial.			Serving sentence.			Sentenced to State prison.		Sentenced to Reform school.	All Others		Total
	Men	Women	Children	Men	Women	Children	Men	Women	Children	Men	Women	
Alameda	30	3	0	18	1	0	4	1	1	8	2	68
Alpine (no inmates).												
Amador	3	0	0	2	0	0	2	0	0	0	0	7
Butte	2	0	0	11	1	0	0	0	0	1	0	15
Calaveras	3	0	0	2	0	0	0	0	0	0	0	5
Colusa	2	0	0	2	0	0	1	0	0	0	0	5
Contra Costa	8	0	0	16	0	0	2	0	0	2	0	28
Del Norte	1	0	0	1	0	0	1	0	0	0	0	3
El Dorado	0	0	0	2	0	0	0	0	0	0	0	2
Fresno	27	0	0	77	1	0	2	0	0	0	0	107
Glenn	0	0	0	1	0	0	0	0	0	0	0	1
Humboldt	3	1	0	6	0	0	0	0	0	0	0	10
Imperial	4	0	0	3	0	0	0	0	0	0	0	7
Inyo	3	0	0	6	0	0	1	0	0	0	0	10
Kern	19	1	0	57	0	0	3	0	0	1	0	81
Kings	8	0	0	16	0	0	0	0	0	0	0	24
Lake	1	0	0	0	0	0	0	0	1	0	0	2
Lassen	0	0	0	1	0	0	0	0	0	0	0	1
Los Angeles	72	1	0	131	2	0	4	0	0	2	0	212
Madera	1	0	0	6	0	0	0	0	0	0	0	7
Marin	2	0	0	8	0	0	0	0	0	0	0	10
Mariposa (no prisoners).												
Mendocino	2	0	0	7	0	0	3	0	0	3	2	17
Merced	2	0	0	19	0	0	0	0	0	1	0	22
Modoc	0	0	0	2	0	0	0	0	0	0	0	2
Mono	0	0	0	2	0	0	0	0	0	0	0	2
Monterey	15	0	0	12	0	0	2	0	0	1	0	30
Napa	5	0	2	13	0	0	0	0	0	0	0	20
Nevada	0	0	0	6	0	0	0	0	0	0	0	6
Orange	5	0	0	14	0	0	0	0	0	0	0	19
Placer	6	0	0	30	0	0	0	0	0	2	0	38
Plumas	4	0	0	13	0	0	0	0	0	0	0	17
Riverside	1	0	0	39	1	0	0	0	0	0	0	41
Sacramento	14	2	0	63	3	0	1	0	2	2	0	87
San Benito	1	0	0	2	0	0	0	0	0	0	0	3
San Bernardino	8	0	0	66	3	0	0	0	0	0	0	77
San Diego	17	0	1	22	2	1	0	0	0	0	0	43
San Francisco	83	1	0	254	33	0	21	0	0	0	0	392
San Joaquin	10	1	0	18	0	0	0	0	0	1	0	30
San Luis Obispo	9	0	0	11	0	0	2	0	0	3	0	25
San Mateo (failed to report).												
Santa Barbara	3	0	0	23	1	0	0	0	0	0	0	27
Santa Clara	15	0	0	35	0	0	2	0	0	2	0	54
Santa Cruz	6	0	0	14	0	0	0	0	0	0	0	20
Shasta	7	0	0	10	0	0	0	0	0	0	0	17
Sierra	1	0	0	0	0	0	0	0	0	0	0	1
Siskiyou	0	0	0	3	0	0	0	0	0	0	0	3
Solano	3	0	0	29	1	0	0	0	0	0	0	33
Sonoma (failed to report).												
Stanislaus	1	0	0	3	0	0	4	0	0	0	0	8
Sutter (no prisoners).												
Tehama	5	0	0	4	0	0	0	0	0	0	0	9
Trinity (no prisoners).												
Tulare	4	0	0	11	0	0	1	0	0	0	0	16
Tuolumne	0	0	0	6	0	0	0	0	0	0	0	6
Ventura	2	0	0	15	0	0	0	0	0	0	0	17
Yolo	2	0	0	12	0	0	0	0	0	0	0	14
Yuba	7	0	0	25	0	0	0	0	0	0	0	32
Totals	427	10	3	1,149	49	1	56	1	4	29	4	1,733

TABLE XXIX. COUNTY JAILS.

Population June 30, 1909.

Counties.	Awaiting trial.			Serving sentence.			Sentenced to			All others.		Total
							State prison.		Reform school.			
	Men	Women	Children	Men	Women	Children	Men	Women	Children	Men	Women	
Alameda	28	12	0	21	4	0	3	1	0	0	0	69
Alpine (no prisoners).												
Amador	0	0	0	2	0	0	2	0	0	0	0	4
Butte	0	0	0	22	0	0	0	0	0	3	0	25
Calaveras	1	0	0	0	0	0	0	0	0	0	0	1
Colusa	1	0	0	1	0	0	0	0	0	0	0	2
Contra Costa	3	0	0	12	0	0	1	0	0	0	0	16
Del Norte (no prisoners).												
El Dorado	2	0	0	0	1	0	0	0	0	1	0	4
Fresno	18	0	0	31	1	0	2	0	0	0	0	52
Glenn	0	0	0	4	0	0	0	0	0	0	0	4
Humboldt	5	0	0	6	0	0	0	0	0	0	0	11
Imperial	2	0	0	4	0	0	1	0	0	0	0	7
Inyo	6	0	0	12	0	0	2	0	0	0	0	20
Kern	7	0	0	32	0	0	0	0	0	3	0	42
Kings	0	0	0	7	0	0	1	0	0	0	0	8
Lake (no prisoners).												
Lassen (no prisoners).												
Los Angeles	71	4	9	70	0	0	0	0	0	0	0	154
Madera	2	0	0	8	0	0	0	0	0	1	0	11
Mariposa	0	0	0	0	0	0	1	0	0	0	0	1
Marin	3	0	0	3	0	0	0	0	0	0	0	6
Mendocino	1	0	0	1	0	0	0	0	0	0	0	2
Merced	1	0	0	13	0	0	0	0	0	0	0	14
Modoc	4	1	0	3	0	0	0	0	0	0	2	10
Mono (no prisoners).												
Monterey	8	0	0	8	0	0	1	0	0	0	0	17
Napa	2	0	0	6	1	0	0	0	0	0	0	9
Nevada	0	0	0	4	0	0	0	0	0	0	0	4
Orange	1	0	0	2	0	0	0	0	0	0	0	3
Placer	2	1	0	31	0	0	0	0	0	0	0	34
Plumas	1	0	0	2	0	0	1	0	0	0	0	4
Riverside	2	0	0	6	0	0	0	0	0	0	0	8
Sacramento	15	0	1	44	0	0	1	0	1	2	0	64
San Benito	0	0	0	2	0	0	0	0	0	0	0	2
San Bernardino	13	1	0	61	2	0	0	0	0	0	0	77
San Diego	15	0	0	9	3	0	0	0	0	0	0	27
San Francisco	69	3	0	168	39	0	25	0	1	1	0	306
San Joaquin	3	1	0	30	3	0	0	0	0	0	0	37
San Luis Obispo	6	0	0	2	0	0	1	0	1	1	0	11
San Mateo	9	0	1	12	0	0	0	0	0	0	0	22
Santa Barbara	2	0	1	16	0	0	0	0	0	0	0	19
Santa Clara	9	1	0	24	0	0	0	0	0	0	0	34
Santa Cruz	2	0	0	4	0	0	0	0	0	0	0	6
Shasta	2	0	0	8	0	0	0	0	0	0	0	10
Sierra (no prisoners).												
Siskiyou	5	0	0	3	0	0	0	0	0	0	0	8
Solano	3	0	0	14	0	0	0	0	0	0	0	17
Sonoma	5	0	0	12	0	0	3	0	0	0	0	20
Stanislaus	0	0	1	3	0	0	0	0	0	0	0	4
Sutter (no prisoners).												
Tehama	2	0	0	6	0	0	1	0	0	0	0	9
Trinity	2	0	0	0	0	0	0	0	0	0	0	2
Tulare	1	0	0	8	0	0	1	0	0	0	0	10
Tuolumne	0	0	0	3	0	0	0	0	0	0	0	3
Ventura	3	0	0	10	0	0	0	0	0	0	0	13
Yolo	0	0	0	3	2	0	1	0	0	0	0	6
Yuba	4	0	0	12	0	0	0	0	0	1	0	17
Totals	341	24	13	765	56	0	48	1	3	13	2	1,266

TABLE XXX. COUNTY JAILS.

Population December 31, 1909.

Counties.	Awaiting trial.			Serving sentence			Sentenced to State prison		Sentenced to Reform school.	All Others.		Total
	Men	Women	Children	Men	Women	Children	Men	Women	Children	Men	Women	
Alameda	38	2	0	29	1	0	3	2	0	2	2	79
Alpine (no prisoners).												
Amador	0	0	0	0	0	0	1	0	0	0	0	1
Butte	3	1	0	14	0	0	0	0	0	3	0	21
Calaveras	1	0	0	1	0	0	0	0	0	0	0	2
Colusa	0	0	0	3	0	0	0	0	0	0	0	3
Contra Costa	12	0	0	23	0	0	1	0	0	0	0	36
Del Norte	0	0	0	0	0	0	1	0	0	0	0	1
El Dorado (no prisoners).												
Fresno	21	0	0	55	1	0	5	0	0	0	1	83
Glenn	3	0	0	4	0	0	0	0	0	1	0	8
Humboldt	5	0	0	4	0	0	2	0	0	1	0	12
Imperial	1	0	0	8	0	0	0	0	0	1	0	10
Inyo	0	0	0	11	0	0	1	0	0	0	0	12
Kern	25	1	1	37	0	0	0	0	0	1	0	66
Kings	0	0	0	6	0	0	1	0	0	0	0	7
Lake	1	0	0	5	0	0	0	0	0	0	0	6
Lassen	4	0	0	0	0	0	0	0	0	0	0	4
Los Angeles	75	7	0	91	1	3	3	1	0	0	0	181
Madera	2	0	0	7	0	0	0	0	0	0	0	9
Mariposa	0	0	0	0	0	0	1	0	0	0	0	1
Marin	3	0	0	3	0	0	0	0	0	0	0	6
Mendocino	4	0	0	7	0	0	1	0	0	2	3	17
Merced	1	0	0	16	0	0	1	0	0	0	0	18
Modoc	0	0	0	2	0	0	0	0	0	0	0	2
Mono (no prisoners).												
Monterey	7	0	0	15	0	0	0	0	0	2	0	24
Napa	1	0	0	4	0	0	0	0	0	0	0	5
Nevada	0	0	0	12	0	0	0	0	0	0	0	12
Orange	10	0	0	51	0	0	0	0	0	1	0	62
Placer	15	0	0	21	0	0	0	0	0	0	0	36
Plumas	0	0	0	0	0	0	1	0	0	0	0	1
Riverside	2	0	0	19	0	0	0	0	0	1	0	22
Sacramento	10	0	0	56	3	0	1	0	0	12	0	82
San Benito	2	0	0	4	1	0	1	0	0	0	0	8
San Bernardino	12	0	0	79	1	0	0	0	0	1	0	93
San Diego	8	1	0	17	0	0	1	0	0	0	0	27
San Francisco	48	0	0	201	25	0	23	1	0	0	0	298
San Joaquin	9	1	0	50	0	0	1	0	0	0	0	61
San Luis Obispo	4	1	0	20	0	0	0	0	0	1	0	26
San Mateo	4	0	0	11	0	0	0	0	0	0	0	15
Santa Barbara	5	0	0	24	0	0	0	0	0	0	0	29
Santa Clara	18	0	2	56	1	0	2	0	0	6	1	86
Santa Cruz	4	0	0	10	0	0	1	0	0	1	0	16
Shasta	4	0	0	16	0	0	0	0	0	0	0	20
Sierra (no prisoners).												
Siskiyou	2	0	0	10	0	0	0	0	0	0	0	12
Solano	3	0	0	15	0	0	0	0	0	0	0	18
Sonoma	5	0	0	16	1	0	0	0	1	1	0	24
Stanislaus	6	0	0	8	0	0	0	0	0	0	0	14
Sutter (no prisoners).												
Tehama	3	0	0	11	0	0	2	0	0	0	0	16
Trinity	0	0	2	0	0	0	0	0	0	0	0	2
Tulare	3	0	0	17	0	0	2	0	0	0	0	22
Tuolumne	3	0	0	2	0	0	0	0	0	0	0	5
Ventura	7	0	0	7	0	0	0	0	0	0	0	14
Yolo	0	0	0	8	0	0	1	0	0	0	0	9
Yuba	2	0	0	22	1	0	0	0	0	1	0	26
Totals	396	14	5	1,108	36	3	57	4	2	38	7	1,670

TABLE XXXI. COUNTY JAILS.

Population June 30, 1910.

Counties.	Awaiting trial.			Serving sentence.			Sentenced to State Prison.		Sentenced to Reform School.	All others.		Total
	Men	Women	Children	Men	Women	Children	Men	Women	Children	Men	Women	
Alameda	49	3	0	20	0	0	0	0	0	0	0	72
Amador	0	0	0	4	0	0	1	0	0	0	0	5
Butte	2	0	0	9	0	0	0	0	0	0	0	11
Calaveras	1	0	0	2	0	0	0	0	0	0	0	3
Colusa	4	1	0	1	0	0	0	0	0	0	0	6
Contra Costa	7	0	0	11	0	0	1	0	0	1	0	20
Del Norte	0	0	0	0	0	0	0	0	0	0	0	0
El Dorado	1	0	0	2	0	0	0	0	0	0	0	3
Fresno	19	1	0	33	0	0	1	0	0	0	0	54
Glenn	0	0	0	6	0	0	0	0	0	0	0	6
Humboldt	4	0	0	6	0	0	0	0	0	1	0	11
Imperial	8	0	0	2	0	0	0	0	0	0	0	10
Inyo	0	0	0	13	0	0	0	0	0	0	0	13
Kern	10	0	0	39	0	0	2	0	0	15	1	67
Kings	0	0	0	11	0	0	0	0	0	0	0	11
Lake	0	0	0	0	0	0	0	0	0	0	0	0
Lassen	0	0	0	2	0	0	0	0	0	0	0	2
Los Angeles	75	1	5	60	0	0	0	1	2	0	0	144
Madera	1	0	0	8	0	0	0	0	0	2	0	11
Mariposa	0	0	0	0	0	0	0	0	0	0	0	0
Marin	0	0	0	11	0	0	0	0	0	0	0	11
Mendocino	2	0	0	5	0	0	0	0	0	0	0	7
Merced	1	0	0	16	0	0	0	0	1	0	0	18
Modoc	0	0	0	1	0	0	0	0	0	0	0	1
Mono	0	0	0	2	0	0	0	0	0	0	0	2
Monterey	10	0	0	10	0	0	0	0	0	0	0	20
Napa	1	0	0	6	0	0	0	0	0	0	0	7
Nevada	1	0	0	6	0	0	0	0	0	1	0	8
Orange	4	0	0	12	1	0	0	0	0	0	0	17
Placer	3	1	0	29	0	0	1	0	0	0	0	34
Plumas	0	0	0	1	0	0	1	0	0	0	0	2
Riverside	1	0	0	12	0	0	0	0	0	0	0	13
Sacramento	15	0	2	50	2	0	0	0	0	6	0	75
San Benito	2	0	0	0	0	0	0	0	0	0	0	2
San Bernardino	17	0	0	70	2	0	1	0	0	0	0	90
San Diego	8	0	0	16	1	0	0	0	0	0	0	25
San Francisco	27	0	0	146	33	0	30	1	0	1	0	238
San Joaquin	6	0	0	23	2	0	2	0	0	0	0	33
San Luis Obispo	4	0	0	9	0	0	0	0	0	0	0	13
San Mateo	2	0	1	4	0	0	0	0	0	1	0	8
Santa Barbara	3	1	0	14	1	0	0	0	0	0	0	19
Santa Clara	7	0	0	32	0	0	2	0	0	2	0	43
Santa Cruz	3	1	0	2	1	0	1	0	0	1	0	9
Shasta	6	0	0	9	0	0	0	0	0	0	0	15
Sierra	0	0	0	0	0	0	0	0	0	1	0	1
Siskiyou	1	0	0	8	0	0	0	0	0	0	0	9
Solano	0	0	0	11	0	0	6	0	0	0	0	17
Sonoma	4	0	0	12	0	0	2	0	0	0	0	18
Stanislaus (failed to report).												
Sutter	0	0	0	2	0	0	0	0	0	0	0	2
Tehama	4	0	0	14	0	0	1	0	0	0	1	20
Trinity	0	0	0	1	0	0	0	0	0	1	0	2
Tulare	0	0	0	0	0	0	0	0	0	0	0	0
Tuolumne	1	0	0	1	0	0	0	0	0	0	0	2
Ventura	5	0	0	2	0	0	0	0	0	1	0	8
Yolo	1	0	0	12	0	0	0	0	0	0	0	13
Yuba	1	0	0	12	0	0	0	0	0	0	0	13
Totals	321	9	8	790	43	0	52	2	3	34	2	1,264

TABLE XXXII. COUNTY JAILS.

Movement of Population July 1, 1908, to June 30, 1909.

Counties.	In jail July 1, 1908	Received during year	Total for year.	Sent to state prison	Sent to reform school.	Served sentence in jail.	Not indicted	Released on habeas corpus	Released on probation	Acquitted	Escaped	Died	Insane sent to state hospitals	Otherwise passed out	Total passed out	In jail June 30, 1909
Alameda	64	697	761	76	26	153	60	1	28	343	0	0	5	0	692	69
Alpine (no prisoners).																
Amador	7	52	59	10	0	35	10	0	0	0	0	0	0	0	55	4
Butte	17	184	201	13	4	114	8	1	2	4	1	0	20	9	176	25
Calaveras	2	30	32	2	0	8	8	2	0	2	0	0	4	5	31	1
Colusa	5	38	43	8	1	24	0	0	1	4	0	0	3	0	41	2
Contra Costa	29	540	569	13	3	273	0	2	2	224	0	0	31	5	553	16
Del Norte	0	11	11	5	2	3	0	0	0	1	0	0	0	0	11	0
El Dorado	0	66	66	2	0	26	0	0	2	2	0	0	2	28	62	4
Fresno	72	2,908	2,980	35	14	805	1,963	0	0	0	16	4	34	57	2,928	52
Glenn	3	54	57	1	1	32	7	0	1	2	1	0	5	3	53	4
Humboldt	10	121	131	5	2	71	0	15	1	2	0	0	17	7	120	11
Imperial	4	79	83	9	0	30	0	3	2	10	0	0	2	20	76	7
Inyo	11	88	99	4	0	49	0	1	2	2	1	0	0	20	79	20
Kern	30	1,269	1,299	42	2	363	801	4	2	12	8	1	10	12	1,257	42
Kings	17	333	350	9	0	155	0	0	0	2	0	1	4	171	342	8
Lake	1	16	17	0	0	11	0	0	3	0	0	0	0	3	17	0
Lassen	1	34	35	1	1	10	0	0	2	2	0	0	2	17	35	0
Los Angeles	148	2,651	2,799	141	49	1,399	654	5	110	29	0	0	8	250	2,645	154
Madera	7	847	854	4	4	90	7	0	38	10	3	0	3	684	843	11
Marin	1	206	207	7	0	182	0	0	0	9	0	0	3	0	201	6
Mariposa	1	10	11	2	0	7	1	0	0	0	0	0	0	0	10	1
Mendocino	9	135	144	6	0	64	24	0	0	3	1	0	9	35	142	2
Merced	14	383	397	12	1	142	62	0	3	0	4	0	7	152	383	14
Modoc	2	49	51	2	2	25	0	0	5	5	0	0	2	0	41	10
Mono	0	17	17	0	0	7	10	0	0	0	0	0	0	0	17	0
Monterey	17	377	394	15	6	232	43	0	42	5	0	0	26	8	377	17
Napa	9	308	317	4	2	76	35	1	118	3	0	0	30	39	308	9
Nevada	8	72	80	1	1	35	2	0	1	2	0	0	6	28	76	4
Orange	5	329	334	13	3	174	0	1	1	116	0	0	8	15	331	3
Placer	37	944	981	25	0	602	0	0	3	2	0	0	11	304	947	34
Plumas	3	54	57	5	0	27	5	0	0	4	0	0	2	10	53	4

TABLE XXXII. COUNTY JAILS—Continued.

Movement of Population July 1, 1908, to July 30, 1909.

Counties	In jail July 1, 1908	Received during year	Total for year	Sent to state prison	Sent to reform school	Served sentence in jail	Not indicted	Released on habeas corpus	Released on probation	Acquitted	Escaped	Died	Insane sent to state hospitals	Otherwise passed out	Total passed out	In jail June 30, 1909
Riverside	12	257	269	11	14	160	0	1	4	8	2	0	26	35	261	8
Sacramento	72	784	856	75	10	267	0	2	53	0	0	1	98	286	792	64
San Benito	7	114	121	5	1	45	0	0	0	0	0	0	1	67	119	2
San Bernardino	62	957	1,019	27	10	707	160	2	8	11	0	0	12	5	942	77
San Diego	21	443	464	29	2	170	19	2	11	9	0	0	0	195	437	27
San Francisco	336	2,383	2,719	159	16	1,957	0	2	42	22	21	11	17	166	2,413	306
San Joaquin	15	613	628	41	2	285	260	0	0	3	0	0	0	0	591	37
San Luis Obispo	28	316	344	11	6	166	41	1	7	7	2	0	13	79	333	11
San Mateo	26	289	315	5	1	106	151	0	1	6	3	0	14	6	293	22
Santa Barbara	25	285	310	10	15	172	2	2	3	6	0	0	18	63	291	19
Santa Clara	40	961	1,001	32	25	240	304	5	5	248	0	0	44	64	967	34
Santa Cruz	15	258	273	10	5	124	0	0	12	2	12	0	16	86	267	6
Shasta	15	224	239	15	0	107	62	0	0	0	1	0	16	28	229	10
Sierra	0	5	5	0	0	1	0	0	0	0	0	0	2	2	5	0
Siskiyou	7	75	82	8	1	31	4	0	1	5	0	0	11	13	74	8
Solano	30	341	371	17	0	160	151	5	5	1	1	0	12	2	354	17
Sonoma	18	443	461	21	15	274	84	0	7	0	0	0	33	7	441	20
Stanislaus	3	214	217	4	0	15	0	0	0	0	0	0	3	191	213	4
Sutter	0	50	50	3	0	4	27	0	0	0	0	0	3	13	50	0
Tehama	11	134	145	6	1	117	0	1	1	1	1	0	5	3	136	9
Trinity	0	11	11	0	0	2	0	0	4	1	0	0	0	2	9	2
Tulare	16	730	746	19	4	142	0	0	0	0	1	0	15	555	736	10
Tuolumne	3	41	44	5	0	16	0	0	0	5	0	0	0	15	41	3
Ventura	14	324	338	14	5	142	0	0	2	9	2	0	14	137	325	13
Yolo	6	51	57	5	2	31	0	0	2	0	2	0	6	3	51	6
Yuba	17	149	166	12	0	111	11	0	2	2	3	0	6	2	149	17
Totals	1,333	23,351	24,687	1,016	259	10,776	4,976	59	539	1,146	86	18	639	3,907	23,421	1,266

TABLE XXXIII. COUNTY JAILS.

Movement of Population July 1, 1909, to July 30, 1910.

Counties.	In jail July 1, 1909	Received during year	Total for year.	Sent to state prison	Sent to reform school	Served sentence in jail.	Not indicted	Released on habeas corpus	Released on probation	Acquitted	Escaped	Died	Insane sent to state hospitals	Otherwise passed out	Total passed out	In jail June 30, 1910
Alameda	69	737	806	111	13	141	59	2	45	360	0	3	0	0	734	72
Amador	4	45	49	1	0	36	2	0	2	0	0	0	0	3	44	5
Butte	25	385	410	20	12	283	5	2	7	6	16	1	27	20	399	11
Calaveras	2	26	28	5	0	6	7	1	0	0	0	0	4	2	25	3
Colusa	6	16	22	2	0	8	0	0	3	0	0	1	0	2	16	6
Contra Costa	17	547	564	13	3	227	0	1	4	268	0	0	21	7	544	20
Del Norte	0	26	26	12	3	9	0	0	0	0	0	0	2	0	26	0
El Dorado	3	82	85	1	0	36	23	0	5	6	0	0	4	7	82	3
Fresno	52	2,505	2,557	48	5	780	1,475	2	10	4	9	0	35	135	2,503	54
Glenn	4	71	75	5	0	38	11	1	2	2	0	0	1	9	69	6
Humboldt	11	122	133	13	5	58	1	0	0	1	0	0	18	26	122	11
Imperial	7	110	117	2	2	21	0	2	10	4	1	0	5	60	107	10
Inyo	20	97	117	4	0	42	25	3	7	1	1	0	1	20	104	13
Kern	42	1,375	1,417	43	5	341	821	3	4	32	59	1	13	28	1,350	67
Kings	8	163	171	6	0	69	0	0	0	0	0	0	3	82	160	11
Lake	0	17	17	3	0	6	5	0	1	0	0	1	0	1	17	0
Lassen	0	27	27	2	0	2	0	0	1	5	0	0	2	13	25	2
Los Angeles	145	2,641	2,786	168	88	1,131	89	7	182	435	0	1	23	518	2,642	144
Madera	9	921	930	4	0	52	4	0	43	6	1	0	4	805	919	11
Marin	9	184	193	7	2	154	0	0	5	0	1	0	12	1	182	11
Mariposa	1	17	18	3	1	2	7	0	0	2	0	0	2	1	18	0
Mendocino	2	120	122	3	0	61	8	0	0	1	0	0	17	25	115	7
Merced	14	322	336	10	4	120	6	0	5	2	0	0	11	160	318	18
Modoc	5	52	57	2	3	15	0	0	13	1	0	0	1	21	56	1
Mono	0	7	7	0	0	3	1	1	0	0	0	0	0	0	5	2
Monterey	17	334	351	11	9	129	79	2	45	1	0	0	23	32	331	20
Napa	9	264	273	6	1	45	12	0	63	2	0	1	32	104	266	7
Nevada	4	72	76	3	3	43	0	0	0	2	0	0	6	11	68	8
Orange	3	616	619	6	4	350	0	1	6	160	0	0	10	65	602	17
Placer	35	801	836	26	1	567	7	0	13	160	3	0	19	6	802	34
Plumas	4	17	21	2	0	7	3	0	0	2	0	0	2	3	19	2
Riverside	8	269	277	15	1	145	24	0	5	6	0	0	22	46	264	13
Sacramento	64	1,200	1,264	109	29	301	198	0	57	17	5	4	73	396	1,189	75
San Benito	4	120	124	4	0	19	0	0	1	0	0	0	3	95	122	2

TABLE XXXIII. COUNTY JAILS—Continued.

Movement of Population July 1, 1909, to June 30, 1910.

Counties.	In jail July 1, 1909	Received during year	Total for year.	Sent to state prison	Sent to reform school.	Served sentence in jail.	Not indicted	Released on habeas corpus	Released on probation	Acquitted	Escaped	Died	Insane sent to state hospital	Otherwise passed out	Total passed out	In jail June 30, 1910
San Bernardino	77	1,097	1,174	33	3	804	132	1	38	32	7	0	7	27	1,084	90
San Diego	27	374	401	20	9	150	20	2	15	7	4	0	0	149	376	25
San Francisco	309	1,991	2,300	143	5	1,689	0	6	91	41	4	11	9	63	2,062	238
San Joaquin	37	867	904	44	0	571	246	0	0	10	0	0	0	0	871	33
San Luis Obispo	11	326	337	8	3	194	0	0	3	1	5	0	5	105	324	13
San Mateo	22	206	228	4	3	57	110	0	5	1	0	1	13	26	220	8
Santa Barbara	19	313	332	9	2	227	29	0	3	6	7	0	7	23	313	19
Santa Clara	66	353	419	24	20	293	0	0	5	3	0	1	27	3	376	43
Santa Cruz	8	245	253	8	5	96	15	1	4	2	7	0	23	83	244	9
Shasta	10	200	210	12	0	99	42	0	7	0	1	0	18	16	195	15
Sierra	1	5	6	1	0	1	0	0	0	0	0	0	2	1	5	1
Siskiyou	8	87	95	10	1	42	13	0	0	0	2	0	9	9	86	9
Solano	17	355	372	13	5	169	150	2	3	1	3	0	7	2	355	17
Sonoma	20	479	499	16	6	228	44	0	15	2	0	0	28	142	481	18
Stanislaus (failed to report)																
Sutter	0	61	61	2	0	3	0	29	0	0	1	0	1	23	59	2
Tehama	8	206	214	9	1	168	6	0	1	0	3	0	6	0	194	20
Trinity	2	9	11	1	0	2	0	2	0	1	0	0	2	1	9	2
Tulare (failed to report)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuolumne	3	82	85	7	2	18	0	0	3	10	0	1	0	42	83	2
Ventura	11	217	228	14	2	63	0	0	8	0	0	0	3	130	220	8
Yolo	6	85	91	4	1	66	0	0	0	0	0	0	7	0	78	13
Yuba	17	123	140	6	0	92	4	0	6	0	2	0	9	8	127	13
Totals	1,282	21,989	23,271	1,058	262	10,279	3,683	71	746	1,603	142	27	579	3,557	22,007	1,264

COUNTY JAILS—SUMMARY.

Number admitted sixtieth fiscal year	23,354
Number admitted sixty-first fiscal year	21,989
Total admitted during two years	45,343
Increase over previous two years	3,845
Of those admitted to jail, the following disposition was made:	
Sent to State prisons	2,074
Sent to State reform schools	521
Served jail sentence	21,055
Released on probation	1,285
Not indicted	8,659
Acquitted	2,749
Released on habeas corpus	130
Escaped	228
Died	45
Sent to insane hospitals	1,218
Otherwise passed out	7,464
Total passed out	45,428
In jails June 30, 1910	1,264
Decrease in two years	85

TABLE XXXIV. COUNTY HOSPITALS.

Population December 31, 1908.

Counties.	Hospital.				Custodial.								Total.		Total
	Pay patients		Charity patients.		Under 5 yrs.		5 to 16 yrs.		16 to 60 yrs.		Over 60 yrs.				
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Alameda	0	0	63	20	2	1	3	3	40	25	157	40	265	89	354
Alpine (no hospital).															
Amador	2	0	5	0	0	0	0	0	2	0	34	5	43	5	48
Butte	0	0	22	0	0	0	0	1	10	1	18	2	50	4	54
Calaveras	0	0	0	0	0	0	0	0	3	1	46	4	49	5	54
Colusa	2	0	15	1	0	0	0	0	0	0	16	1	33	2	35
Contra Costa	0	1	16	2	0	0	0	0	12	0	38	8	66	11	77
Del Norte	0	1	0	0	0	0	0	0	0	0	14	0	14	1	15
El Dorado	0	0	0	0	0	0	0	0	3	0	57	2	60	2	62
Fresno	2	1	92	18	0	0	0	0	21	6	32	6	147	31	178
Glenn	0	0	0	0	0	0	0	0	5	2	8	0	13	2	15
Humboldt (failed to report).															
Inyo	0	0	0	0	0	0	0	0	1	0	9	2	10	2	12
Kern	0	0	23	2	0	0	0	0	3	1	24	1	50	4	54
Kings	0	0	0	0	0	0	0	0	7	1	5	0	12	1	13
Lake	0	0	0	0	0	0	0	0	0	0	4	0	4	0	4
Lassen	2	0	2	0	0	0	0	0	0	0	6	0	10	0	10
Los Angeles—Farm	0	0	0	0	0	0	0	0	55	10	148	24	203	34	237
Hospital	0	0	267	72	0	0	0	0	0	0	0	0	267	72	339
Madera	1	0	6	3	0	0	2	0	0	0	35	0	44	3	47
Marin	0	0	0	0	0	0	2	0	11	2	26	7	39	9	48
Mariposa	0	0	0	0	0	0	0	0	4	0	24	1	28	1	29
Mendocino	1	1	5	2	0	0	0	2	6	1	63	0	75	6	81
Merced	2	0	8	0	0	0	0	0	8	0	16	1	34	1	35
Merced Branch	0	0	11	0	0	0	0	0	2	0	2	0	15	0	15
Modoc	3	0	4	1	0	0	0	0	0	0	5	0	12	1	13
Mono	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3
Monterey	0	0	13	1	0	0	0	0	8	0	30	0	51	1	52
Napa	0	0	0	0	0	0	0	0	3	1	27	5	30	6	36
Nevada	2	0	17	2	0	0	0	0	6	0	43	4	68	6	74
Placer (not segregated)													75	7	82
Plumas	0	0	4	0	0	0	0	0	0	0	16	0	20	0	20
Riverside	1	2	20	4	0	0	0	0	0	3	12	4	33	13	46
Sacramento	0	0	91	7	0	0	0	0	26	5	104	12	221	24	245
San Benito	0	0	1	0	0	0	0	0	0	1	16	4	17	5	22
San Bernardino	5	1	43	8	0	0	0	0	10	5	37	2	95	16	111
San Diego	0	3	37	10	0	0	0	0	9	5	45	9	91	27	118
San Francisco—															
Hospital	0	0	317	54	0	0	0	0	0	0	0	0	317	54	371
Home for Aged	0	0	0	0	0	0	0	0	294	113	616	275	910	388	1298
San Joaquin (not segregated)													210	27	237
San Luis Obispo	0	0	3	0	1	1	0	0	12	5	22	0	38	6	44
San Mateo	1	0	0	0	0	0	0	0	6	1	32	0	39	1	40
Santa Barbara	0	0	14	0	0	0	0	0	14	3	18	9	46	12	58
Santa Clara—Hospital	4	2	80	39	0	0	0	0	0	0	0	0	84	41	125
Farm	0	0	0	0	0	0	0	0	19	0	169	0	188	0	188
Santa Cruz	0	0	12	3	0	0	0	0	5	1	46	3	63	7	70
Shasta	0	0	14	0	0	0	0	0	13	0	34	0	61	0	61
Sierra	0	0	0	0	0	0	0	0	1	1	22	0	23	1	24
Siskiyou	0	0	20	0	0	0	0	0	7	0	55	0	82	0	82
Solano	0	1	21	4	0	0	0	0	0	0	15	8	36	13	49
Sonoma	4	2	35	4	0	1	0	0	11	0	51	7	101	14	115
Stanislaus	0	0	0	0	0	0	0	1	14	2	39	1	53	4	57
Sutter	0	0	19	0	0	0	0	0	0	0	0	0	19	0	19
Tehama	0	0	10	1	0	0	0	0	0	0	27	0	37	1	38
Trinity	0	0	1	0	0	0	0	0	1	0	21	0	23	0	23
Tulare	0	0	10	1	0	0	0	0	1	0	8	1	19	2	21
Tuolumne	0	0	3	0	0	0	0	2	5	2	24	1	32	5	37
Ventura	0	0	0	0	0	0	0	0	10	0	13	3	23	3	26
Yolo	0	0	14	2	0	0	0	0	4	2	13	4	31	8	39
Yuba	3	0	27	1	0	0	0	0	8	0	23	0	61	1	62
Totals	35	15	1365	262	3	3	7	9	680	200	2368	456	4743	979	5722

TABLE XXXV. COUNTY HOSPITALS.

Population June 30, 1909.

Counties.	Hospital.				Custodial.								Total.		Total ....
	Pay patients.		Charity patients.		Under 5 yrs		5 to 16 yrs.		16 to 60 yrs.		Over 60 yrs.				
	Male ...	Female	Male ...	Female	Male ...	Female	Male ...	Female	Male ...	Female	Male ...	Female	Male ...	Female	
Alameda	0	0	45	20	1	3	9	8	190	68	21	20	266	119	385
Amador	2	0	0	0	0	0	0	0	4	0	27	3	33	3	36
Butte	0	1	24	0	0	0	0	0	0	0	30	1	54	2	56
Calaveras	0	1	13	5	0	0	0	0	0	0	35	0	48	6	54
Colusa	2	0	9	1	0	0	0	0	0	0	13	1	24	2	26
Contra Costa	0	1	17	4	0	0	0	0	7	0	39	6	63	11	74
Del Norte (not segregated)		0	0	0	0	0	0	0	0	0	0	0	13	2	15
El Dorado	0	0	0	0	0	0	1	0	3	1	48	3	52	4	56
Fresno	3	0	85	14	0	0	0	0	22	1	33	10	143	25	168
Glenn	0	0	0	0	0	0	0	0	3	0	7	0	10	0	10
Humboldt	0	0	0	0	0	0	1	1	10	5	46	3	57	9	66
Inyo	0	0	0	0	0	0	0	0	0	0	10	2	10	2	12
Kern	0	0	0	0	0	0	0	0	4	0	40	0	44	0	44
Kings	0	0	1	1	0	0	0	0	3	0	3	0	7	1	8
Lake	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3
Lassen	3	0	5	0	0	0	0	0	0	0	0	0	8	0	8
Los Angeles—Farm	0	0	0	0	0	0	0	0	61	9	139	20	200	29	229
Hospital	0	0	265	76	0	0	0	0	0	0	0	0	265	76	341
Madera	0	0	5	0	0	0	0	0	3	0	19	0	27	0	27
Marin	0	0	0	0	0	0	1	0	8	1	23	8	32	9	41
Mariposa	0	0	0	0	0	0	0	0	6	0	18	0	24	0	24
Mendocino	0	0	6	0	0	0	0	0	4	0	60	0	70	0	70
Merced	3	0	7	1	0	0	0	0	1	0	9	0	20	1	21
Merced Branch	0	0	4	0	0	0	0	0	2	0	2	0	8	0	8
Modoc	0	0	2	1	0	0	0	0	2	0	2	0	6	1	7
Mono	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3
Monterey	0	0	11	0	0	1	0	0	3	2	27	1	41	4	45
Napa	0	0	6	2	0	0	0	0	0	0	24	8	30	10	40
Nevada	1	0	8	3	0	0	0	0	9	0	40	3	58	6	64
Placer	0	0	68	11	0	0	0	0	0	0	0	0	68	11	79
Plumas	0	0	6	0	0	0	0	0	0	0	12	0	18	0	18
Riverside	0	2	11	6	0	0	0	0	0	3	16	4	27	15	42
Sacramento	0	0	95	12	0	0	0	0	30	6	60	11	185	29	214
San Benito	0	0	2	0	0	0	0	0	0	0	19	3	21	3	24
San Bernardino	6	5	57	7	0	0	0	0	12	3	29	2	104	17	121
San Diego	0	3	22	7	0	2	0	0	8	8	47	13	77	33	110
San Francisco—Hosp'l	2	0	293	56	0	0	0	0	0	0	0	0	295	56	351
Home for Aged	0	0	0	0	0	0	0	0	267	105	641	258	908	363	1271
San Joaquin	3	0	127	11	1	1	3	2	19	2	8	3	161	19	180
San Luis Obispo	0	0	5	0	0	1	0	0	3	3	30	1	38	5	43
San Mateo	0	0	2	1	0	0	0	0	6	1	20	0	28	2	30
Santa Barbara	0	0	16	5	0	0	1	0	2	0	25	9	44	14	58
Santa Clara—Hospital	4	9	75	37	1	3	0	0	0	0	0	0	80	49	129
Almshouse	0	0	0	0	0	0	0	0	25	0	127	0	152	0	152
Santa Cruz	0	0	17	2	0	0	1	0	9	1	30	4	57	7	64
Shasta	0	0	18	1	0	0	0	0	0	0	24	0	42	1	43
Sierra	0	0	0	0	0	0	0	0	0	0	19	0	19	0	19
Siskiyou	0	0	11	0	0	0	0	0	5	0	48	0	64	0	64
Solano	0	1	19	1	0	0	0	0	6	1	16	6	41	9	50
Sonoma	2	3	45	4	1	0	3	1	14	0	30	8	95	16	111
Stanislaus	0	0	11	1	0	0	0	0	2	0	31	1	44	2	46
Sutter	0	0	7	2	0	0	0	0	0	0	5	0	12	2	14
Tehama	1	0	10	0	0	0	0	0	0	0	14	1	25	1	26
Trinity	0	0	0	0	0	0	0	1	1	0	29	0	30	1	31
Tulare	0	0	6	0	0	0	0	0	2	0	12	0	20	0	20
Tuolumne	0	0	0	0	0	0	0	0	8	2	29	2	37	4	41
Ventura	0	0	14	1	0	0	0	0	0	0	12	3	26	4	30
Yolo	0	0	6	2	0	0	0	0	2	2	13	3	21	7	28
Yuba	1	0	8	1	0	2	0	0	1	1	21	0	31	4	35
Totals	33	26	1464	296	4	13	20	13	767	225	2088	421	4389	996	5385

TABLE XXXVI. COUNTY HOSPITALS.

Population December 31, 1909.

Counties.	Hospital.				Custodial.								Totals.		Total ....
	Pay patients.		Charity patients.		Under 5 yrs.		5 to 16 yrs.		16 to 60 yrs.		Over 60 yrs.				
	Male ...	Female.	Male ...	Female.	Male ...	Female.	Male ...	Female.	Male ...	Female.	Male ...	Female.	Male ...	Female.	
Alameda	0	0	74	32	1	0	7	5	145	22	138	17	365	76	441
Amador	2	1	2	0	0	0	0	0	5	0	38	3	47	4	51
Butte	0	1	46	0	0	0	0	0	0	0	25	2	71	3	74
Calaveras	0	0	9	0	0	0	0	0	0	0	39	2	48	2	50
Colusa	1	0	10	0	0	0	0	0	0	0	15	0	26	0	26
Contra Costa	1	0	27	10	0	0	0	0	3	0	35	7	66	17	83
Del Norte	0	1	1	0	0	0	0	0	0	0	10	1	11	2	13
El Dorado	2	0	0	0	0	0	0	0	0	0	58	4	60	4	64
Fresno	0	0	88	17	0	0	0	0	28	7	42	4	158	28	186
Glenn	0	0	0	0	0	0	0	0	11	1	11	0	22	1	23
Humboldt (failed to report).															
Inyo	0	0	0	0	0	0	0	0	4	0	12	2	16	2	18
Kern	0	0	24	2	0	0	0	0	7	0	28	0	59	2	61
Kings	0	0	2	0	0	0	0	0	1	0	5	0	8	0	8
Lake	0	0	0	0	0	0	0	0	0	0	5	0	5	0	5
Lassen	1	0	0	0	0	0	0	0	0	0	7	0	8	0	8
Los Angeles—Farm	0	0	0	0	0	0	0	0	46	16	130	10	176	26	202
Hospital	3	0	285	82	0	0	0	0	0	0	0	0	288	82	370
Madera	1	0	5	1	0	0	2	1	1	1	28	0	37	3	40
Marin	0	0	0	0	0	0	1	0	2	1	28	5	31	6	37
Mariposa	0	0	0	0	0	0	0	0	1	0	25	1	26	1	27
Mendocino	1	0	8	0	0	0	1	0	21	0	49	0	80	0	80
Merced	1	4	8	0	0	0	0	0	2	0	18	1	29	5	34
Merced Branch	0	0	10	0	0	0	0	0	2	0	2	0	14	0	14
Modoc	0	0	2	0	0	0	0	0	0	0	4	1	6	1	7
Mono	0	0	0	0	0	0	0	0	0	0	6	0	6	0	6
Monterey	0	0	16	0	0	1	0	0	7	2	28	0	51	3	54
Napa	0	0	9	2	0	0	0	0	1	0	26	8	36	10	46
Nevada	0	0	11	1	0	0	0	0	9	0	43	4	63	5	68
Placer	0	0	82	10	0	0	0	0	0	0	0	0	82	10	92
Plumas	0	0	0	0	0	0	0	0	0	0	17	0	17	0	17
Riverside	0	2	17	4	0	0	1	1	10	3	6	3	34	13	47
Sacramento	0	0	163	19	0	0	0	0	20	5	60	8	243	32	275
San Benito	0	0	5	0	0	0	0	0	0	0	19	3	24	3	27
San Bernardino	6	2	44	13	0	0	0	0	47	4	26	2	123	21	144
San Diego	0	3	25	6	1	1	3	2	7	5	54	9	90	26	116
San Francisco															
Hospital	0	0	337	52	0	0	0	0	0	0	0	0	337	52	389
Home for Aged	0	0	0	0	0	0	0	0	302	122	633	244	935	366	1301
San Joaquin	2	5	90	11	0	0	0	0	87	8	12	2	191	26	217
San Luis Obispo	1	0	14	0	0	0	0	0	2	1	24	2	41	3	44
San Mateo	0	0	10	0	0	0	0	0	6	1	21	1	37	2	39
Santa Barbara	0	0	25	0	0	0	0	0	1	0	28	9	54	9	63
Santa Clara—Hospital	6	6	94	31	0	0	0	0	0	0	0	0	100	37	137
Almshouse	0	0	0	0	0	0	0	0	25	0	167	0	192	0	192
Santa Cruz	0	0	16	2	0	0	1	0	7	1	43	4	67	7	74
Shasta	0	0	12	0	0	0	0	0	3	0	21	0	36	0	36
Sierra	0	0	0	0	0	0	0	0	1	0	15	0	16	0	16
Siskiyou	0	0	0	0	0	0	0	0	4	0	46	0	50	0	50
Solano	0	0	27	3	0	1	0	1	5	1	22	5	54	11	65
Sonoma	0	1	50	4	0	0	0	0	3	0	58	8	111	13	124
Stanislaus	2	0	15	0	0	0	2	1	4	1	30	1	53	3	56
Sutter	0	0	12	0	0	0	0	0	0	0	8	0	20	0	20
Tehama	0	0	11	0	0	0	0	0	0	0	28	0	39	0	39
Trinity	1	0	1	0	0	0	0	0	1	0	26	0	29	0	29
Tulare	0	0	0	0	0	0	0	0	3	0	22	0	25	0	25
Tuolumne	0	0	4	1	0	0	0	0	10	1	26	0	40	2	42
Ventura	0	0	5	0	0	0	0	0	7	1	17	2	29	3	32
Yolo	0	0	1	0	0	0	0	0	7	2	24	3	32	5	37
Yuba	1	0	18	2	0	0	0	0	10	0	16	0	45	2	47
Totals	32	26	1715	305	2	3	18	11	868	206	2324	378	4959	929	5888

TABLE XXXVII. COUNTY HOSPITALS.

Population June 30, 1910.

Counties.	Hospital.				Custodial.								Totals.		Total
	Pay patients.		Charity patients.		Under 5 yrs.		5 to 16 yrs.		16 to 60 yrs.		Over 60 yrs.				
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Alameda	0	0	0	0	4	3	4	5	130	73	114	71	252	152	404
Amador	1	1	2	0	0	0	0	0	0	0	33	6	36	7	43
Butte	2	0	46	1	0	0	0	0	17	2	4	0	69	3	72
Calaveras	4	0	5	0	0	0	0	0	0	0	34	3	43	3	46
Colusa	2	0	4	0	0	0	0	0	1	0	12	0	19	0	19
Contra Costa	0	0	14	0	0	0	1	0	9	1	31	7	55	8	63
Del Norte	0	1	1	0	0	0	0	0	0	0	9	0	10	1	11
El Dorado	2	0	5	1	0	0	0	0	0	0	52	0	59	1	60
Fresno	2	2	88	16	0	0	0	0	23	2	42	10	155	30	185
Glenn	0	0	4	0	0	0	0	0	0	0	14	0	18	0	18
Humboldt (failed to report).															
Inyo	0	0	0	0	0	0	0	0	1	0	11	2	12	2	14
Kern	0	0	27	2	0	0	0	0	14	0	18	1	59	3	62
Kings	0	0	3	1	0	0	0	0	1	0	5	1	9	2	11
Lake	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Lassen	0	0	0	0	0	0	0	0	0	1	5	0	5	1	6
Los Angeles—Farm	0	0	0	0	0	0	0	0	70	20	74	6	144	26	170
Hospital	2	0	300	102	0	0	0	0	0	0	0	0	302	102	404
Madera	0	0	2	2	0	0	0	0	0	1	41	0	43	3	46
Marin	0	0	0	0	0	0	1	0	1	1	29	0	31	1	32
Mariposa	0	0	0	0	0	0	0	0	1	0	21	0	22	0	22
Mendocino	0	1	7	1	1	0	3	0	11	1	47	0	69	3	72
Merced	0	0	19	0	0	0	0	0	7	0	13	1	39	1	40
Merced Branch	0	0	8	0	0	0	0	0	2	0	2	0	12	0	12
Modoc	0	0	0	0	0	0	0	0	0	0	5	0	5	0	5
Mono	0	0	0	0	0	0	0	0	0	0	4	0	4	0	4
Monterey	0	0	10	0	0	0	0	0	6	0	28	1	44	1	45
Napa	0	0	5	0	0	0	0	0	1	1	35	9	41	10	51
Nevada	1	0	11	1	0	0	0	0	7	0	38	2	57	3	60
Placer	0	0	36	1	0	0	0	0	0	1	20	8	56	10	66
Plumas	0	0	2	0	0	0	0	0	0	0	12	0	14	0	14
Riverside	1	3	8	1	0	0	1	2	2	2	17	4	29	12	41
Sacramento	0	0	94	13	0	0	0	0	14	6	74	12	182	31	213
San Benito	1	0	3	0	0	0	0	0	1	1	13	3	18	4	22
San Bernardino	2	9	43	13	0	0	0	1	39	3	25	4	109	30	139
San Diego	0	1	29	7	0	0	0	0	12	6	55	7	96	21	117
San Francisco															
Hospital	0	0	310	62	0	0	0	0	0	0	0	0	310	62	372
Home for Aged	0	0	0	0	0	0	0	0	246	114	668	225	914	339	1253
San Joaquin	5	0	65	16	0	0	0	0	23	0	39	7	132	23	155
San Luis Obispo	0	0	0	0	0	0	0	0	14	6	22	0	36	6	42
San Mateo	0	0	5	0	0	0	0	0	5	1	20	0	30	1	31
Santa Barbara	0	0	19	3	0	0	0	0	3	0	32	8	54	11	65
Santa Clara—Hospital	5	6	97	43	0	0	0	0	0	0	0	0	102	49	151
Almshouse	0	0	0	0	0	0	0	0	10	0	146	0	156	0	156
Santa Cruz	0	1	26	0	1	0	0	0	7	1	23	5	57	7	64
Shasta	0	0	15	0	0	0	0	0	0	0	22	2	37	2	39
Sierra	0	0	0	0	0	0	0	0	1	0	15	0	16	0	16
Siskiyou	0	0	5	0	0	0	0	0	3	0	38	0	46	0	46
Solano	0	0	21	8	0	1	0	0	4	2	21	0	46	11	57
Sonoma	2	0	40	11	2	0	0	0	8	0	34	9	86	20	106
Stanislaus	0	0	13	3	0	0	0	0	2	0	22	0	37	3	40
Sutter	0	0	7	0	0	0	0	0	0	0	6	0	13	0	13
Tehama	0	0	5	0	0	0	0	0	0	0	20	1	25	1	26
Trinity	1	0	0	0	0	0	0	0	2	0	28	0	31	0	31
Tulare	0	0	8	0	0	0	0	0	0	0	11	0	19	0	19
Tuolumne	0	0	0	0	0	0	0	0	10	1	20	0	30	1	31
Ventura	0	0	14	0	0	0	0	0	0	0	11	3	25	3	28
Yolo	0	0	7	0	0	0	0	0	6	2	13	2	26	4	30
Yuba	0	0	14	1	0	0	0	0	8	0	13	0	35	1	36
Totals	33	25	1447	309	8	4	10	8	722	249	2162	420	4382	1015	5397

TABLE XXXVIII. COUNTY HOSPITALS.

Movement of Population, July 1, 1908, to June 30, 1909.

Counties.	No. of inmates July, 1, 1908	No. received during year	Total for year	Discharged	Runaway	Died	Sent to state institutions	Sent to other counties	Sent out of state	Total passed out	No. of inmates June 30, 1909
Alameda	420	1,523	1,943	1,344	0	214	0	0	0	1,558	385
Amador	36	87	123	62	0	24	1	0	0	87	36
Butte	42	336	378	259	0	63	0	0	0	322	56
Calaveras	54	98	152	73	0	25	0	0	0	98	54
Colusa	24	93	117	81	0	8	1	1	0	91	26
Contra Costa	75	308	383	255	0	28	20	6	0	309	74
Del Norte (not segregated)	0	0	0	0	0	0	0	0	0	0	15
El Dorado	54	62	116	46	0	13	1	0	0	60	56
Fresno	168	895	1,063	751	8	128	5	3	0	895	168
Glenn	10	78	88	68	0	9	0	1	0	78	10
Humboldt	65	93	158	75	0	17	0	0	0	92	66
Inyo	12	25	37	18	0	6	0	1	0	25	12
Kern	34	432	466	355	0	67	0	0	0	422	44
Kings	9	56	65	45	0	12	0	0	0	57	8
Lake	3	13	16	6	0	2	2	3	0	13	3
Lassen	8	16	24	11	0	5	0	0	0	16	8
Los Angeles—Farm	225	82	307	58	0	10	2	3	5	78	229
Hospital	312	3,242	3,554	2,413	0	485	315	0	0	3,213	341
Madera	39	139	178	135	0	15	0	1	0	151	27
Marin	41	37	78	26	0	11	0	0	0	37	41
Mariposa	20	21	41	9	0	7	1	0	0	17	24
Mendocino	70	95	165	67	0	17	11	0	0	95	70
Merced	25	178	203	161	3	12	0	6	0	182	21
Merced Branch	8	72	80	69	0	3	0	0	0	72	8
Modoc	12	20	32	21	0	3	0	0	1	25	7
Mono	4	0	4	0	0	1	0	0	0	1	3
Monterey	43	118	161	94	0	21	1	0	0	116	45
Napa	43	136	179	109	0	20	9	1	0	139	40
Nevada	59	120	179	83	0	32	0	0	0	115	64
Placer	75	302	377	246	0	52	0	0	0	298	79
Plumas	14	46	60	32	0	10	0	0	0	42	18
Riverside	39	224	263	181	3	25	5	3	4	221	42
Sacramento	198	1,654	1,852	1,480	0	158	0	0	0	1,638	214
San Benito	23	41	64	27	0	12	0	1	0	40	24
San Bernardino	106	742	848	612	3	81	27	3	1	727	121
San Diego	106	394	500	303	0	69	15	1	2	390	110
San Francisco—											
Hospital	288	2,374	2,662	1,730	128	438	15	0	0	2,311	351
Home for Aged	1,193	816	2,009	410	128	154	46	0	0	738	1,271
San Joaquin	183	1,013	1,196	911	0	105	0	0	0	1,016	180
San Luis Obispo	47	158	205	123	0	33	5	1	0	162	43
San Mateo	29	70	99	54	0	14	1	0	0	69	30
Santa Barbara	45	94	139	60	6	12	2	0	1	81	58
Santa Clara—Farm	145	303	448	291	0	2	2	1	0	296	152
Hospital	136	566	702	466	0	107	0	0	0	573	129
Santa Cruz	59	158	217	121	1	22	4	5	0	153	64
Shasta	47	188	235	157	0	35	0	0	0	192	43
Sierra	20	15	35	8	0	7	1	0	0	16	19
Siskiyou	63	135	198	96	1	23	3	7	4	134	64
Solano	50	223	273	201	2	19	1	0	0	223	50
Sonoma	100	314	414	245	2	52	4	0	0	303	111
Stanislaus	46	166	212	133	1	21	9	2	0	166	46
Sutter	9	78	87	68	0	5	0	0	0	73	14
Tehama	32	159	191	145	0	18	0	1	1	165	26
Trinity	18	22	40	3	0	6	0	0	0	9	31
Tulare	19	142	161	113	0	28	0	0	0	141	20
Tuolumne	44	76	120	38	0	23	7	10	1	79	41
Ventura (not segregated)	0	0	0	0	0	0	0	0	0	0	30
Yolo	36	105	141	77	0	30	2	3	1	113	28
Yuba	47	232	279	201	1	35	5	2	0	244	35
Totals	5,132	19,185	24,317	15,226	287	2,854	523	66	21	18,977	5,385

TABLE XXXIX. COUNTY HOSPITALS.

Movement of Population July 1, 1909, to June 30, 1910.

Counties.	No. of inmates July 1, 1909	No. received during year	Total for year	Discharged	Runaway	Died	Sent to state institutions	Sent to other counties	Sent out of state	Total passed out	No. of inmates June 30, 1910
Alameda	385	1,543	1,928	1,317	0	207	0	0	0	1,524	404
Amador	36	81	117	60	0	12	2	0	0	74	43
Butte	56	359	415	297	0	44	2	0	0	343	72
Calaveras	51	85	136	70	2	15	2	0	1	90	46
Colusa	26	108	134	94	0	17	0	2	2	115	19
Contra Costa	74	294	368	282	0	23	0	0	0	305	63
Del Norte	14	8	22	6	0	4	0	0	1	11	11
El Dorado	57	66	123	42	0	21	0	0	0	63	60
Fresno	168	872	1,040	753	0	98	2	1	1	855	185
Glenn	9	119	128	100	0	10	0	0	0	110	18
Humboldt (failed to report).											
Inyo	12	22	34	14	0	5	0	1	0	20	14
Kern	44	629	673	545	0	66	0	0	0	611	62
Kings	11	49	60	45	0	3	1	0	0	49	11
Lake	1	14	15	7	1	6	0	0	0	14	1
Lassen	8	10	18	8	0	3	1	0	0	12	6
Los Angeles—Hosp'l	354	3,860	4,214	2,802	0	578	360	20	50	3,810	404
Farm	236	192	428	245	0	13	0	0	0	258	170
Madera	32	112	144	83	0	15	0	0	0	98	46
Marin	39	37	76	20	0	24	0	0	0	44	32
Mariposa	22	25	47	16	0	8	1	0	0	25	22
Mendocino	67	82	149	38	0	27	12	0	0	77	72
Merced	21	218	239	183	0	8	3	4	1	199	40
Merced Branch	8	91	99	81	0	6	0	0	0	87	12
Modoc	7	15	22	12	0	4	1	0	0	17	5
Mono	3	7	10	5	0	1	0	0	0	6	4
Monterey	45	134	179	116	0	16	2	0	0	134	45
Napa	40	122	162	71	8	11	21	0	0	111	51
Nevada	64	92	156	70	0	25	1	0	0	96	60
Placer	79	365	444	304	0	69	5	0	0	378	66
Plumas	18	34	52	27	0	10	1	0	0	38	14
Riverside	43	243	286	198	3	40	3	0	1	245	41
Sacramento	214	2,064	2,278	1,870	0	195	0	0	0	2,065	213
San Benito	22	45	67	35	0	9	0	1	0	45	22
San Bernardino	121	913	1,034	722	4	122	17	24	6	895	139
San Diego	110	463	573	364	0	82	7	2	1	456	117
San Francisco—											
Hospital	351	2,420	2,771	1,702	129	483	85	0	0	2,399	372
Home for Aged	1,271	674	1,945	376	140	166	10	0	0	692	1,253
San Joaquin	180	993	1,173	893	0	125	0	0	0	1,018	155
San Luis Obispo	30	138	168	111	0	15	0	0	0	126	42
San Mateo	30	60	90	45	0	12	0	2	0	59	31
Santa Barbara	58	138	196	74	24	20	1	12	0	131	65
Santa Clara—											
Hospital	129	558	687	443	0	93	0	0	0	536	151
Almshouse	152	309	461	298	0	4	3	0	0	305	156
Santa Cruz	63	153	216	119	1	22	2	6	2	152	64
Shasta	39	138	177	109	0	29	0	0	0	138	39
Sierra	19	9	28	4	0	8	0	0	0	12	16
Siskiyou	67	118	185	113	0	24	2	0	0	139	46
Solano	50	140	190	110	0	20	3	0	0	133	57
Sonoma	111	335	446	280	4	53	2	1	0	340	106
Stanislaus	38	346	384	297	1	34	12	0	0	344	40
Sutter	14	86	100	81	0	6	0	0	0	87	13
Tehama	26	166	192	140	2	21	2	1	0	166	26
Trinity	29	18	47	9	0	5	0	2	0	16	31
Tulare	17	115	132	88	0	25	0	0	0	113	19
Tuolumne	42	70	112	39	0	20	10	10	2	81	31
Ventura	27	158	185	136	0	21	0	0	0	157	28
Yolo	27	133	160	99	2	25	2	0	2	130	30
Yuba	35	201	236	168	0	22	10	0	0	200	36
Totals	5,302	20,849	26,151	16,636	321	3,050	588	89	70	20,754	5,397

TABLE XL. DEFECTIVES IN COUNTY HOSPITALS.

December 31, 1908.

Counties.	Blind.		Deaf.		Feeble-minded.		Epileptic.		Crippled.		Consumptive.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Alameda	7	3	3	3	0	0	2	0	0	0	17	0
Amador	0	0	2	1	2	2	0	0	15	3	3	0
Butte	1	0	1	0	0	0	0	0	7	0	1	0
Calaveras	4	0	0	0	5	2	0	0	9	1	1	0
Colusa	0	0	1	0	1	0	0	0	1	1	0	0
Contra Costa	2	0	0	0	3	2	1	0	2	1	0	0
Del Norte	1	1	0	0	0	0	0	0	1	0	1	0
El Dorado	3	0	13	1	1	1	2	0	14	0	0	0
Fresno	3	0	0	0	0	0	1	0	17	2	5	0
Glenn	1	0	0	0	0	0	0	0	1	0	1	0
Humboldt (failed to report)												
Inyo (no defectives).												
Kern	4	0	3	0	3	0	1	0	6	0	7	2
Kings	0	0	0	0	1	0	0	0	2	0	4	0
Lake (no defectives).												
Lassen (no defectives)												
Los Angeles—												
Farm	4	1	0	0	12	12	0	0	0	0	0	0
Hospital	4	1	0	0	2	0	2	0	30	8	76	0
Madera	0	0	0	0	0	0	0	0	1	0	0	0
Marin	1	0	1	0	4	1	0	0	0	0	1	0
Mariposa	2	0	0	0	0	0	1	0	4	0	0	0
Mendocino	4	0	3	0	6	0	0	0	4	0	2	0
Merced	0	0	0	0	1	0	0	0	3	0	0	0
Merced Branch	0	0	0	0	0	0	1	0	1	0	0	0
Modoc	0	0	4	0	1	1	0	1	1	0	1	0
Mono	0	0	0	0	0	0	1	0	0	0	0	0
Monterey	3	0	1	0	1	0	1	0	8	0	1	0
Napa	0	0	0	0	0	0	1	0	4	1	1	0
Nevada	0	2	0	0	5	0	2	0	20	0	1	0
Placer	2	0	2	0	0	0	1	0	0	0	0	0
Plumas	1	0	0	0	0	0	0	0	0	0	0	0
Riverside	0	1	0	0	0	2	0	0	1	1	5	0
Sacramento	1	0	1	0	1	0	2	0	31	0	14	0
San Benito	2	0	2	1	0	0	1	0	8	0	0	0
San Bernardino	0	0	0	0	0	2	0	0	4	1	17	2
San Diego	4	1	1	3	8	8	1	0	20	9	5	0
San Francisco—												
Home for Aged	34	7	15	27	57	27	13	4	186	78	0	0
Hospital	0	0	0	0	0	0	0	0	0	0	75	10
San Joaquin	0	0	0	0	2	1	1	0	1	0	10	1
San Luis Obispo	4	0	2	0	1	0	0	0	1	0	1	0
San Mateo	1	0	0	0	2	1	0	0	2	0	0	0
Santa Barbara	4	1	0	0	1	2	0	0	15	5	2	0
Santa Clara—												
Hospital	1	1	0	0	0	2	0	0	6	1	8	2
Farm	3	0	2	0	1	0	2	0	25	0	12	0
Santa Cruz	1	0	2	0	3	1	0	0	10	0	0	1
Shasta	5	0	0	0	0	0	0	0	5	0	2	0
Sierra	1	0	1	0	2	0	0	0	2	0	0	0
Siskiyou	4	0	7	0	17	0	0	0	12	0	2	0
Solano	1	0	0	0	4	3	0	0	2	0	0	1
Sonoma	3	1	3	0	1	1	1	0	3	0	4	0
Stanislaus	0	0	1	0	1	0	1	0	5	0	4	0
Sutter (no defectives).												
Tehama	2	0	1	0	1	0	0	0	4	0	0	0
Trinity	1	0	1	0	2	0	0	0	1	0	0	0
Tulare	0	0	1	0	1	0	1	0	3	0	0	1
Tuolumne	2	0	4	0	0	1	0	0	4	2	3	0
Ventura	2	0	0	0	1	0	0	0	1	0	0	0
Yolo	2	0	2	1	1	0	1	0	2	1	0	0
Yuba	0	0	1	0	2	0	0	0	1	0	2	0
Totals	115	20	81	37	157	72	41	5	506	115	289	29

TABLE XLI. DEFECTIVES IN COUNTY HOSPITALS.

June 30, 1909.

Counties.	Blind.		Deaf.		Feeble-minded.		Epileptic.		Crippled.		Consumptive.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Alameda	12	3	17	8	2	1	11	11	7	5	20	5
Alpine (no hospital).												
Amador	0	0	2	0	3	0	0	0	4	1	0	0
Butte	1	0	2	0	2	0	1	0	0	0	0	0
Calaveras	4	0	27	2	2	1	0	0	6	1	1	0
Colusa	0	0	1	0	1	0	1	0	2	0	0	0
Contra Costa	2	0	0	0	3	2	1	0	2	0	1	0
Del Norte	1	1	1	1	1	0	1	0	0	0	1	0
El Dorado	5	0	10	0	4	0	0	0	16	0	0	0
Fresno	4	0	0	0	0	0	1	0	14	1	8	0
Glenn	1	0	3	0	0	0	0	0	1	0	2	0
Humboldt	4	0	0	1	2	0	0	0	5	3	1	0
Inyo	0	0	0	0	0	1	0	0	1	0	0	0
Kern	6	0	2	0	0	0	0	0	7	0	4	0
Kings	0	0	0	0	0	0	0	0	2	0	0	0
Lake (none).												
Lassen	0	0	0	0	0	0	1	0	0	0	1	0
Los Angeles	6	2	0	0	12	12	0	1	100	14	80	12
Madera (none).												
Marin	1	0	1	0	3	1	0	0	1	0	0	0
Mariposa	2	0	1	0	0	0	1	0	5	0	0	0
Mendocino	4	0	3	0	7	0	4	0	0	0	2	0
Merced	1	0	0	0	0	0	0	0	6	0	1	0
Modoc	0	0	1	0	0	1	0	1	1	0	0	0
Mono	0	0	0	0	0	0	1	0	0	0	0	0
Monterey	3	0	1	0	1	1	2	0	6	0	1	0
Napa	0	0	0	0	1	1	1	0	3	1	0	0
Nevada	1	0	0	0	0	0	2	1	16	0	3	0
Placer	3	0	0	0	4	0	3	0	2	3	2	1
Plumas	1	0	0	0	0	0	0	0	0	0	0	0
Riverside	0	1	0	0	0	2	0	0	0	0	4	1
Sacramento	0	0	2	0	1	0	1	0	7	0	23	1
San Benito	2	0	1	1	1	0	1	0	8	0	1	0
San Bernardino	0	0	8	0	6	3	0	0	34	3	25	1
San Diego	5	1	0	0	5	5	1	0	14	6	4	1
San Francisco	41	8	12	4	53	7	9	3	163	91	95	11
San Joaquin	1	0	4	1	3	0	1	0	7	4	7	1
San Luis Obispo	4	0	1	0	2	0	0	0	3	0	0	0
San Mateo	0	0	0	0	0	0	0	0	2	0	0	0
Santa Barbara	1	0	0	0	2	0	0	0	11	2	3	1
Santa Clara	3	1	2	0	0	2	2	1	11	2	16	1
Santa Cruz	1	0	1	1	2	1	1	0	10	0	1	0
Shasta	4	0	0	0	0	0	1	0	1	0	3	0
Sierra	1	0	0	0	0	0	0	0	1	0	0	0
Siskiyou	4	0	12	0	16	0	0	0	8	0	0	0
Solano	2	1	1	0	2	0	0	0	1	0	0	0
Sonoma	4	1	3	1	1	1	1	1	3	1	3	0
Stanislaus	0	0	2	0	2	0	1	0	5	0	3	0
Sutter	0	0	1	0	0	0	0	0	2	0	0	0
Tehama	2	0	0	0	1	0	1	0	5	0	1	0
Trinity	1	0	1	0	0	0	0	0	2	0	0	0
Tulare	0	0	1	0	0	0	0	0	7	0	1	0
Tuolumne	3	0	5	0	1	1	2	0	1	1	4	0
Ventura	1	0	0	0	1	1	0	0	2	1	1	0
Yolo	2	0	0	0	0	0	0	1	2	0	0	1
Yuba	0	0	1	0	2	0	0	0	1	0	1	0
Totals	144	19	130	20	149	44	53	20	518	140	324	37

TABLE XLII. DEFECTIVES IN COUNTY HOSPITALS.

December 31, 1909.

Counties.	Blind.		Deaf.		Feeble-minded.		Epileptic.		Crippled.		Consumptive.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Alameda	24	0	4	0	22	5	8	2	14	1	29	6
Amador	0	0	0	0	4	1	1	0	8	3	2	0
Butte	1	0	1	0	0	0	1	0	3	0	2	0
Calaveras	5	0	25	1	3	0	0	0	9	0	3	0
Colusa	0	0	0	0	1	0	0	0	5	0	0	0
Contra Costa	2	0	0	0	3	0	1	0	3	0	2	0
Del Norte	1	1	0	1	1	0	0	0	2	0	0	0
El Dorado	4	0	1	0	0	0	0	0	6	0	0	0
Fresno	4	0	0	0	0	1	0	0	15	1	8	0
Glenn	0	0	1	0	0	0	0	0	1	0	0	0
Humboldt (failed to report).												
Inyo (none).												
Kern	4	0	3	0	6	0	1	0	7	0	8	0
Kings	0	0	0	0	1	0	0	0	1	1	0	0
Lake (none).												
Lassen	0	0	0	0	1	0	0	0	0	0	0	0
Los Angeles—												
Hospital	0	0	0	0	0	0	0	0	0	0	84	9
Farm	1	0	0	0	19	0	0	0	88	0	0	0
Madera	0	0	0	0	0	0	0	0	0	0	2	0
Marin	2	0	2	0	4	0	0	0	2	0	0	0
Mariposa	2	0	0	0	0	0	2	0	1	0	0	0
Mendocino	5	0	4	0	6	0	1	0	7	0	3	0
Merced	1	0	0	0	0	0	0	0	1	0	1	0
Modoc	0	0	2	0	0	0	0	1	2	0	0	0
Mono	0	0	0	0	0	0	1	0	0	0	0	0
Monterey	2	0	1	0	2	0	5	0	6	0	0	0
Napa	0	0	0	0	1	2	1	0	34	8	0	0
Nevada	1	1	0	0	0	0	1	0	17	0	3	0
Placer	3	0	2	0	1	0	3	0	5	0	3	0
Plumas	1	0	0	0	0	0	0	0	1	0	0	0
Riverside	0	1	0	0	0	3	0	0	0	0	6	1
Sacramento	2	0	0	0	1	0	3	0	17	0	24	1
San Benito	2	0	1	1	1	0	1	0	5	0	1	0
San Bernardino	2	0	18	0	0	3	0	0	20	4	30	1
San Diego	5	1	0	0	7	5	0	0	24	4	9	1
San Francisco—												
Hospital	0	0	0	0	0	0	0	0	0	0	126	9
Home for Aged	39	6	21	18	58	42	13	7	216	77	0	0
San Joaquin	2	0	3	0	5	0	2	0	9	0	12	0
San Luis Obispo	3	0	0	0	0	0	2	0	0	0	2	0
San Mateo	1	0	0	0	0	0	0	0	1	0	2	0
Santa Barbara	3	0	0	0	3	1	1	0	10	1	3	0
Santa Clara—												
Hospital	1	1	0	0	0	1	0	1	10	3	10	3
Almshouse	5	0	2	0	0	0	2	0	8	0	10	0
Santa Cruz	1	0	2	1	8	1	0	0	7	1	0	0
Shasta	3	0	0	0	0	0	1	0	0	0	0	0
Sierra	1	0	0	0	0	0	0	0	1	0	0	0
Siskiyou	2	0	0	0	10	0	0	0	6	0	0	0
Solano	2	1	1	1	5	1	0	0	21	2	2	0
Sonoma	5	1	1	1	1	1	0	1	5	1	3	1
Stanislaus	1	0	1	0	0	0	1	0	2	0	5	0
Sutter	1	0	1	0	1	0	0	0	3	0	1	0
Tehama	1	0	0	0	0	0	0	0	1	0	1	0
Trinity	2	0	1	0	0	0	0	0	0	0	0	0
Tulare	0	0	1	0	1	0	0	0	6	0	2	0
Tuolumne	2	0	3	0	0	0	0	0	4	1	3	0
Ventura	1	0	2	0	1	0	1	0	2	0	0	0
Yolo	2	0	0	0	0	0	0	1	1	0	1	1
Yuba	0	0	1	0	3	0	0	0	4	0	1	0
Totals	152	13	105	24	180	67	54	13	621	108	404	33

TABLE XLIII. DEFECTIVES IN COUNTY HOSPITALS.

June 30, 1910.

Counties.	Blind.		Deaf.		Feeble-minded.		Epileptic.		Crippled.		Consumptive.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Alameda	8	5	16	9	6	2	9	8	20	7	36	5
Amador	0	0	0	0	4	1	2	0	9	4	2	0
Butte	0	0	2	0	0	0	1	0	0	0	2	0
Calaveras	6	0	4	1	4	0	1	0	7	0	3	0
Colusa	1	0	0	0	2	0	0	0	1	0	0	0
Contra Costa	2	1	0	0	4	1	1	0	2	0	4	0
Del Norte	1	1	0	0	0	0	0	0	0	0	0	0
El Dorado	2	0	1	0	0	0	1	0	7	0	0	0
Fresno	4	0	0	0	5	3	0	0	3	0	6	2
Glenn	0	0	0	0	2	0	1	0	0	0	0	0
Humboldt (failed to report).												
Inyo	1	0	1	0	1	1	0	0	0	0	0	0
Kern	4	0	0	0	1	0	1	0	7	1	6	0
Kings	0	0	0	0	0	0	0	0	1	1	0	0
Lake	0	0	0	0	0	0	0	0	1	0	0	0
Lassen	0	0	0	0	0	0	0	0	0	0	0	0
Los Angeles—												
Hospital	2	1	1	0	9	1	2	0	38	17	73	12
Farm	1	0	0	0	13	10	2	1	72	13	0	0
Madera	1	0	0	0	0	0	0	0	0	0	0	0
Marin	1	0	2	0	0	0	0	0	1	0	1	0
Mariposa	2	0	0	0	0	0	0	0	2	0	0	0
Mendocino	4	0	2	0	5	0	0	0	3	0	2	0
Merced	1	0	1	0	2	0	0	0	0	0	3	0
Modoc	0	0	2	0	0	0	0	0	2	0	0	0
Mono	0	0	0	0	1	0	1	0	0	0	0	0
Monterey	0	0	3	0	2	0	1	0	8	0	0	0
Napa	0	0	2	0	3	1	1	0	3	1	0	0
Nevada	2	0	0	0	0	0	1	0	12	2	0	0
Placer	3	0	2	0	1	0	1	0	2	1	2	0
Plumas	1	0	0	0	0	0	0	0	2	0	0	0
Riverside	1	1	0	0	0	2	0	0	0	0	2	0
Sacramento	2	0	0	0	1	2	2	0	10	4	17	1
San Benito	2	0	1	1	0	1	1	0	6	0	1	1
San Bernardino	2	0	7	2	0	1	1	0	15	6	22	1
San Diego	4	1	0	0	5	4	0	0	20	2	8	0
San Francisco—												
Hospital	0	0	0	0	0	0	0	0	0	0	103	16
Home for Aged	35	7	14	7	55	63	11	5	290	86	0	0
San Joaquin	0	0	0	0	1	0	0	1	10	2	6	1
San Luis Obispo	3	0	2	0	1	2	1	1	3	1	2	0
San Mateo	1	0	0	0	0	0	0	0	1	0	0	0
Santa Barbara	2	0	1	0	5	1	1	0	14	1	5	2
Santa Clara—												
Hospital (no statistics).												
Almshouse	3	0	2	0	0	0	5	0	6	0	10	0
Santa Cruz	2	0	1	0	2	1	1	0	7	1	3	0
Shasta	3	0	0	0	0	0	1	0	1	0	1	0
Sierra	1	0	0	0	0	0	0	0	1	0	0	0
Siskiyou	1	0	10	0	0	0	0	0	4	0	0	0
Solano	2	1	1	1	5	1	0	0	21	2	0	0
Sonoma	4	1	1	1	2	1	0	0	4	1	1	3
Stanislaus	1	0	1	0	0	0	0	0	2	0	3	0
Sutter	1	0	1	0	1	0	0	0	1	0	0	0
Tehama	1	0	0	0	2	0	0	0	2	0	0	0
Trinity	1	0	1	0	0	0	0	0	0	0	0	0
Tulare	0	0	0	0	1	0	0	0	2	0	0	0
Tuolumne	3	0	2	0	0	0	0	0	1	1	2	0
Ventura	1	0	0	0	1	0	0	0	3	0	0	0
Yolo	1	0	0	0	2	0	0	0	0	0	4	0
Yuba	0	0	1	0	2	0	0	0	0	0	0	0
Totals	124	19	85	22	151	99	50	16	627	154	330	44

COUNTY HOSPITALS—SUMMARY.

Number admitted sixtieth fiscal year	19,185
Number admitted sixty-first fiscal year	20,849
Total admitted during two years	40,034
Increase over previous two years	2,996
Of these the following disposition was made:	
Discharged	31,862
Runaway	608
Died	5 904
Sent to state institutions	1,111
Sent to other counties	155
Sent out of the State	91
Total passed out	39,731
In hospitals June 30, 1910	5,397
Increase in two years	303

TABLE XLIV. ORPHAN ASYLUMS.

Population September 30, 1909.

Institutions.	Under 5 yrs.		5 to 10 yrs.		10 to 14 yrs.		Over 14 yrs.		Total.		Grand total	No. received during year	No. placed in homes	No. discharged without a home
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls				
Albertinum Orphanage, Ukiah	10	0	37	0	49	0	0	0	96	0	96	35	7	0
Armitage Orphanage, San Mateo	1	0	39	0	87	0	22	0	149	0	149	57	0	0
Bertha Juilly Home for Children, Inc., San Francisco	5	8	7	3	0	0	0	0	12	11	23	28	19	0
Boys and Girls' Aid Society, South Pasadena	13	7	27	16	40	12	1	3	81	38	119	76	82	0
Boys and Girls' Aid Society of San Francisco	0	0	4	0	48	0	75	0	127	0	127	221	40	0
Fred Finch Orphanage, Fruitvale	7	4	30	23	28	21	2	1	67	49	116	53	15	47
Florence Crittenton Home, San Francisco	11	12	0	0	0	0	0	0	11	12	23	24	23	0
Florence Crittenton Home, Los Angeles	2	6	14	0	4	0	0	0	20	6	26	3	5	0
Fresno Orphans' Home Association	5	2	17	8	6	6	1	0	29	16	45	62	67	0
Golden Gate Orphanage, Lytton	8	13	27	22	39	23	17	11	91	69	160	48	37	2
Grass Valley Orphan Asylum	10	9	32	39	43	60	2	10	87	118	205	39	27	7
Good Templars' Home for Orphans	11	4	33	15	30	16	2	3	76	38	114	61	19	0
Home of Benevolence, San Jose	5	3	28	14	13	12	1	3	47	32	79	37	4	0
Home of the Guardian Angel, Los Angeles	18	22	81	46	27	29	2	6	128	103	231	57	42	0
Josephinium, Mission San Jose	0	7	0	48	0	60	0	6	0	121	121	43	4	0
Los Angeles Orphans' Home	12	8	33	33	18	10	2	1	65	52	117	75	53	0
Los Angeles Orphan Asylum	0	20	0	47	0	70	0	60	0	197	197	26	10	0
Ladies' Relief Society of Oakland	12	9	21	11	13	11	1	0	47	31	78	42	54	0
Maria Kip Orphanage and Alfred Nuttall Nelson Memorial Home, San Francisco	0	9	0	23	0	28	0	19	0	79	79	34	20	0
McKinley Orphanage, San Francisco	4	5	15	20	7	5	1	6	27	36	63	23	0	0
McKinley Industrial Home, Avery	0	0	8	0	23	0	0	0	31	0	31	14	0	0
Mt. St. Joseph's Infant Orphan Asylum, San Francisco	89	61	75	105	0	18	0	13	164	197	361	170	73	0
Pajaro Valley Orphan Asylum, Watsonville	3	0	75	0	153	0	29	0	260	0	260	77	49	19
Pacific Hebrew Orphan Asylum and Home Society, San Francisco	1	1	30	23	35	30	26	25	92	79	171	36	15	2
Pasadena Children's Training Society	7	4	13	10	6	12	0	2	26	28	54	18	11	0
Roman Catholic Orphan Asylum of San Francisco	0	5	0	165	0	189	0	65	0	424	424	187	15	0
Presbyterian Orphanage and Farm, San Anselmo	3	0	32	23	29	13	3	4	67	40	107	33	23	0
St. Catherine's, Anaheim	20	0	70	0	64	0	11	0	165	0	165	34	0	0
St. Catherine's Orphan Asylum, San Bernardino	0	6	0	29	0	30	0	0	0	65	65	23	0	0
St. Francis Girls' Directory Orphan Asylum, San Francisco	8	10	8	33	0	29	0	8	16	80	96	33	11	0

TABLE XLIV. ORPHAN ASYLUMS—Continued.

Population September 30, 1909.

Institutions.	Under 5 yrs.		5 to 10 yrs.		10 to 14 yrs.		Over 14 yrs.		Total.		Grand total	No. received during year	No. placed in homes	No. discharged without a home
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls				
St. Vincent's Roman Catholic Orphan Asylum of San Francisco for Boys	0	0	126	0	310	0	42	0	478	0	478	239	245	0
St. Vincent's Institution, Santa Barbara	0	4	0	29	0	28	0	8	0	69	69	15	5	0
Sacramento Children's Home	18	15	10	9	24	15	0	0	52	39	91	49	18	0
Sacramento Orphanage and Farm Association	7	10	32	31	36	34	0	2	75	77	152	106	53	0
San Francisco Children's Orphanage	0	0	2	1	0	0	0	0	2	1	3	0	0	0
San Francisco Foundling Asylum	17	13	0	0	0	0	0	0	17	13	30	55	20	0
San Francisco Ladies' Protection and Relief Society	12	7	41	41	15	19	1	2	69	69	138	82	6	0
San Francisco Protestant Orphan Asylum	4	6	15	25	53	27	5	3	77	61	138	34	40	0
San Francisco Nursery for Homeless Children	18	9	8	6	15	15	0	0	41	30	71	37	2	0
Santa Cruz Orphan Asylum	0	5	0	20	0	22	0	2	0	49	49	10	13	0
San Diego Children's Home Association	7	6	26	12	2	4	1	4	36	26	62	36	24	0
Union Man's Orphanage, San Lorenzo	1	4	1	5	3	2	0	0	5	11	16	16	0	0
West Oakland Home	12	8	25	14	16	9	1	2	54	33	87	41	7	0
I. O. O. F. Orphans' Home, Gilroy	0	0	3	4	9	4	12	4	24	12	36	1	1	4
Totals	361	322	1,045	953	1,245	863	260	273	2,911	2,411	5,322	2,390	1,159	81

EXPENDITURES OF STATE BOARD OF CHARITIES AND CORRECTIONS.

SIXTIETH FISCAL YEAR.

July, 1908—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau, clippings		3 00	
E. C. Moore, traveling expenses		45 20	
Chas. A. Ramm, traveling expenses		24 65	
J. K. McLean, traveling expenses		36 75	
W. A. Gates—			
Exchange on remittance	$1 15		
Telegrams	3 70		
Towel exchange	75		
Traveling expenses	56 80		
Stenographic work	3 15		
	$65 55		
Credit—Rebate on scrip book	2 56		
		62 99	
E. M. Cooper, stenographic work		10 00	
			$507 59
August, 1908—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		12 95	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		6 90	
Department of State Printing, stationery		13 50	
W. A. Gates—			
Exchange on remittance	$0 60		
Postage	7 00		
Towel exchange	75		
Telegram	25		
Traveling expenses	39 85		
	$48 45		
Credit—Rebate on scrip book	6 90		
		41 55	
			402 90
September, 1908—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company		5 50	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		1 05	
W. A. Gates—			
Exchange on remittance	$0 65		
Express charges	95		
Towel exchange	75		
Postage	10 00		
Traveling expenses	43 70		
Office supplies	35		
		56 40	
			390 95
October, 1908—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Co.		7 85	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		1 25	
Department of State Printing, letterheads		8 00	

EXPENDITURES OF STATE BOARD—*Continued.*

October, 1908.			
National Prison Association, 10 volumes, Proceedings of 1907		$10 00	
J. K. McLean, traveling expenses		2 85	
W. A. Gates—			
Traveling expenses	$13 60		
Exchange on remittance	45		
Towel exchange	75		
	$14 80		
Credit—Rebate on scrip book	4 24		
		10 56	
			$368 51
November, 1908—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Co.		7 15	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		2 25	
H. S. Crocker Company, office supplies		4 00	
E. C. Moore, traveling expenses		42 20	
W. A. Gates—			
Exchange on remittance	$0 50		
Towel exchange	75		
Express charges	35		
Office supplies	95		
Postage	6 00		
Traveling expenses	67 55		
		76 10	
			459 70
December, 1908—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Co.		6 70	
Allen's Press Clipping Bureau		3 00	
J. K. McLean, traveling expenses		62 40	
W. A. Gates—			
Exchange on remittance	$0 70		
Postage	5 00		
Towel exchange	75		
Office supplies	1 40		
Traveling expenses	4 30		
	$12 15		
Credit—Rebate on scrip book	4 55		
		7 60	
			404 70
January, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau		3 00	
Pacific Telephone Company		7 70	
Yosemite Engraving Company, six cuts		19 20	
Isaac Upham Company, office supplies		22 70	
J. K. McLean, traveling expenses		7 95	
W. A. Gates—			
Exchange on remittance	$0 75		
Postage	11 00		
Express charges	55		
Towel exchange	75		
Office supplies	10		
Traveling expenses	108 00		
		121 15	
			506 70
February, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau		3 00	
Pacific Telephone Company		7 85	
National Conference of Charities and Corrections, 10 volumes, Proceedings of 1908		18 00	

EXPENDITURES OF STATE BOARD—*Continued.*

February, 1909—			
W. A. Gates—			
Exchange on remittance	$0 50		
Towel exchange	75		
Postage	80 00		
Traveling expenses	29 05		
	$110 30		
Credit—Rebate on scrip book	2 75		
		$107 55	
			$461 40
March, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau		3 00	
Pacific Telephone Company		6 40	
Isaac Upham Company, office supplies		3 00	
Department of State Printing, biennial report		928 50	
W. A. Gates—			
Exchange on remittance	$0 50		
Towel exchange	75		
Postage	10 00		
Office supplies	95		
Traveling expenses	4 25		
		16 45	
			1,282 35
April, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau		3 00	
Pacific Telephone Company		5 70	
J. K. McLean, traveling expenses		3 43	
W. A. Gates—			
Exchange on remittance	$0 85		
Express charges	55		
Postage	5 00		
Towel exchange	75		
Traveling expenses	1 45		
		8 60	
			345 73
May, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau		3 00	
Pacific Telephone Company		6 15	
E. C. Moore, traveling expenses		44 10	
W. S. Tinning, traveling expenses		5 40	
W. A. Gates—			
Exchange on remittance	$0 73		
Towel exchange	75		
Express charges	60		
Postage	2 00		
Telegram	40		
Traveling expenses	3 35		
		7 83	
			391 48
June, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Allen's Press Clipping Bureau		3 00	
Pacific Telephone Company		6 15	
Isaac Upham Company, office supplies		3 25	
Department of State Printing, stationery		15 00	
W. A. Gates—			
Exchange on remittance	$0 48		
Towel exchange	75		
Traveling expenses	132 60		
		133 83	
			486 23
Total expended			$6,008 24

EXPENSES ANALYZED—SIXTIETH FISCAL YEAR.

Salaries—		
W. A. Gates	$2,400 00	
Anita Eldridge	900 00	
		$3,300 00
Traveling expenses—		
J. K. McLean	$113 38	
E. C. Moore	131 50	
Charles A. Ramm	24 65	
W. S. Tinning	5 40	
W. A. Gates	504 50	
	$779 43	
Credit—Rebate on scrip books	21 00	
		758 43
Office expenses—		
Rent	$600 00	
Telephone service	80 10	
Press clippings	36 00	
Postage	136 00	
Towel exchange	9 00	
Printing, stationery, etc.,	36 50	
Biennial report	928 50	
Express charges	3 00	
Telegrams	4 35	
Library	28 00	
Cuts for biennial report	19 20	
Office supplies	48 15	
Exchange on remittances	7 86	
Stenographic work	13 15	
		1,949 81
Total expenditures		$6,008 24
Total expenditure sixtieth fiscal year		$6,008 24
Total appropriation sixtieth fiscal year		6,000 00
Amount expended in excess of appropriation		$8 24

EXPENDITURES FOR THE SIXTY-FIRST FISCAL YEAR.

July, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		5 50	
Allen's Press Clipping Bureau, press clippings		3 00	
Geo. C. Bornemann Company, office supplies		4 75	
Helen M. Hussey, stenographic work		2 25	
Charles A. Ramm, traveling expenses		5 05	
J. K. McLean, traveling expenses		5 00	
W. A. Gates—			
Postage	$20 00		
Freight	3 55		
Towel exchange	75		
Subscription to *Survey*	2 00		
Traveling expenses	64 70		
		91 00	
			$441 55
August, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		6 10	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		3 90	
J. K. McLean, traveling expenses		72 75	
W. A. Gates—			
Exchange on remittances	$0 90		
Telegrams	1 20		
Express charges	35		
Traveling expenses	77 35		
		79 80	
			490 55
September, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		6 70	
Allen's Press Clipping Bureau		3 00	
Department of State Printing, envelopes and blanks		28 00	
American Prison Association, 10 volumes, Proceedings of 1908		10 00	
Isaac Upham Company, office supplies		2 50	
W. A. Gates—			
Exchange on remittance	$0 55		
Postage	5 00		
Towel exchange	1 50		
Traveling expenses	48 05		
		55 10	
			430 30
October, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Co., telephone service		5 75	
Allen's Press Clipping Bureau		3 00	
Department State Printing, blanks		5 25	
Pacific Typewriter Co., adding machine		40 00	
The New Book Store, dictionary		2 00	
J. K. McLean, traveling expenses		3 50	
E. C. Moore, traveling expenses		37 15	
W. A. Gates -			
Exchange on remittance	$0 30		
Postage	5 00		
Towel exchange	75		
Express charges	60		
Fountain pen	1 00		
Traveling expenses	9 95	17 60	
			439 25

EXPENDITURES OF STATE BOARD—*Continued.*

November, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Co., telephone service		6 40	
Allen's Press Clipping Bureau		3 00	
Department of State Printing, blanks and envelopes		27 25	
American Ribbon & Carbon Co., carbon paper		4 00	
Isaac Upham Co., office supplies		2 75	
E. C. Moore, traveling expenses		37 45	
Charles A. Ramm, traveling expenses		4 95	
J. K. McLean, traveling expenses		5 75	
R. S. Taylor, traveling expenses		30 45	
W. A. Gates—			
Exchange on remittance	$0 50		
Postage	5 50		
Telegram	40		
Traveling expenses	54 85		
	$61 25		
Credit—Rebate on scrip book	12 55		
		48 70	
			$495 70
December, 1909—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Co., telephone service		7 20	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Co., office supplies		2 25	
W. A. Gates—			
Exchange on remittance	$0 50		
Postage	10 00		
Long-distance telephone	1 20		
Photo supplies	3 40		
Towel exchange	1 50		
Traveling expenses	40		
		17 00	
			354 45
January, 1910—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		8 00	
Allen's Press Clipping Bureau		3 00	
National Conference of Charities and Corrections, 10 volumes, Proceedings of 1909		18 00	
W. A. Gates—			
Exchange on remittance	$0 35		
Postage	5 00		
Towel Exchange	75		
Notary fee	50		
Traveling Expenses	8 45		
	$15 05		
Credit—Rebate on scrip book	5 05		
		10 00	
			364 00
February, 1910—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		7 75	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		4 55	
J. K. McLean, traveling expenses		1 20	
W. A. Gates—			
Exchange on remittance	$0 50		
Postage	8 00		
Express charge	1 05		
Towel exchange	75		
Traveling expenses	100 25		
	$110 55		

EXPENDITURES OF STATE BOARD—*Continued.*

February, 1910—			
Credit—Rebate on scrip book	$3 72		
		$106 83	
			$448 33
March—1910			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		5 50	
Allen's Press Clipping Bureau		3 00	
Department of State Printing, 1,000 pamphlets		35 50	
E. C. Moore, traveling expenses		41 90	
W. A. Gates—			
Exchange on remittance	$0 50		
Postage	15 00		
Traveling expenses	58 75		
		74 25	
			485 15
April, 1910—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		7 55	
Allen's Press Clipping Bureau		3 00	
Isaac Upham Company, office supplies		1 00	
W. A. Gates—			
Exchange on remittance	$0 50		
Postage	5 00		
Towel exchange	1 50		
Traveling expenses	56 15		
		63 15	
			399 70
May, 1910—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange, office rent		50 00	
Pacific Telephone Company, telephone service		6 10	
Allen's Press Clipping Bureau		3 00	
Typewriter Exchange, office supplies		3 10	
E. C. Moore, traveling expenses		42 20	
Mrs. C. S. Foltz, traveling expenses		111 60	
W. A. Gates—			
Exchange on remittance	$0 50		
Camera supplies	1 25		
Towel exchange	75		
Traveling expenses	96 75		
		99 25	
			590 25
June, 1910—			
W. A. Gates, salary		$200 00	
Anita Eldridge, salary		75 00	
Merchants' Exchange		50 00	
Pacific Telephone Company, telephone service		7 35	
Allen's Press Clipping Bureau		3 00	
H. S. Crocker Company, bookcase sections		48 60	
Department of State Printing, letterheads and envelopes		20 25	
Mrs. Clara S. Foltz, traveling expenses		75 70	
E. C. Moore, traveling expenses		21 05	
W. S. Tinning, traveling expenses		16 60	
W. A. Gates—			
Exchange on remittance	$0 50		
Postage	13 00		
Towel exchange	75		
Express charges	1 40		
Traveling expenses	72 30		
		87 95	
			605 50
Total expenditures			$5,544 73

EXPENSES ANALYZED—SIXTY-FIRST FISCAL YEAR.

Salaries—		
W. A. Gates	$2,400 00	
Anita Eldridge	900 00	
		$3,300 00
Traveling expenses—		
J. K. McLean	$88 20	
E. C. Moore	179 75	
Charles A. Ramm	10 00	
Mrs. Clara Shortridge Foltz	187 30	
W. S. Tinning	16 60	
R. S. Taylor	30 45	
W. A. Gates	647 95	
	$1,160 25	
Credit—Rebate on scrip books	21 32	
		$1,138 93
Office expenses—		
Rent	$600 00	
Telephone service	81 10	
Press clippings	36 00	
Postage	91 50	
Towel exchange	9 00	
Printing, stationery, etc.	116 25	
Express charges	6 95	
Exchange on remittances	5 60	
Telegrams	1 60	
Library	32 00	
Office supplies	34 45	
Stenographic work	2 25	
Book case sections	48 60	
Adding machine	40 00	
Notary fee	50	
		1,105 80
Total expenditures		$5,544 73
Total appropriation for sixty-first fiscal year		$6,000 00
Total expenditures for sixty-first fiscal year		5,544 73
Amount unexpended for sixty-first fiscal year		$455 27

BIENNIAL REPORT

OF THE

STATE BOARD OF PRISON DIRECTORS

OF THE

STATE OF CALIFORNIA

FOR THE

SIXTIETH AND SIXTY-FIRST FISCAL YEARS

1909-1910.

SACRAMENTO
W. W. SHANNON - - - SUPERINTENDENT OF STATE PRINTING
1910

STATE BOARD OF PRISON DIRECTORS.

TIREY L. FORD, President,	San Francisco
WARREN R. PORTER,	Watsonville
C. E. CLINCH,	Grass Valley
CHARLES SONNTAG,	San Francisco
ROBERT T. DEVLIN,	Sacramento

OFFICERS OF STATE PRISON AT SAN QUENTIN.

JOHN E. HOYLE,	Warden
W. D. STURTEVANT,	Clerk
IRVING T. BALLARD,	Commissary
D. SULLIVAN,	Turnkey
S. L. RANDOLPH,	Captain of the Yard
E. V. ELLIS,	Captain of the Guard
W. S. GILLETT,	Distributing Officer
WAID J. STONE, M,D.,	Resident Physician
WM. H. LLOYD,	Resident Chaplain

OFFICERS OF STATE PRISON AT FOLSOM.

W. H. REILLY,	Warden
JOHN E. HOSIER,	Clerk
J. A. AGUIRRE,	General Overseer
A. E. INGERSOLL,	Resident Physician

FRANK S. MULFORD,	State Parole Officer

Room 13, Ferry Building, San Francisco.

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BIENNIAL REPORT

OF THE

STATE BOARD OF PRISON DIRECTORS.

His Excellency, James N. Gillett, *Governor of California.*

Sir: In accordance with law, the State Board of Prison Directors herewith submit their report for the two years ending June 30, 1910.

PRISON POPULATION.

Our prison population, as continually noted in previous biennial reports, is constantly increasing.

At the close of the last fiscal year (June 30, 1910), California had 1,922 prisoners confined at San Quentin, 1,016 at Folsom, and 316 on parole, a total of 3,254 prisoners, and being an increase of 375, or 11.2 per cent for the two fiscal years covered by this report.

Of this large prison population over eighty per cent are first termers, leaving less than twenty per cent who are recidivists. Of these latter, less than one fourth, or less than five per cent of the whole, are natives of California. Furthermore, a large proportion of these recidivists came to us from other states.

Thus it will be seen that, so far as our prison population is drawn from the population of our own State, it consists mainly of first termers.

It is also interesting to note that the percentage of recidivists has been materially reduced during the last ten years, this reduction in percentage of recidivists being most marked among the native Californians.

These facts are especially interesting from the standpoint of prison management, inasmuch as they show that criminals are not being made at our state prisons.

INCREASED COST OF PRISON SUPPLIES.

Not only has our prison population greatly increased during the last two fiscal years, but the price of prison supplies has materially advanced. We have, by reason of these facts, been forced to the most rigid economy and have been compelled to leave undone some things that would have made for greater efficiency in the conduct of the prisons.

CROWDED CONDITIONS AT BOTH PRISONS.

The crowded conditions at both prisons have reached serious proportions. At San Quentin there are 696 cells and over 1,900 prisoners, At Folsom there are 394 cells and over 1,000 prisoners. Besides overcrowding the cells, large rooms are used at both prisons for the overflow. At San Quentin 385 prisoners sleep in two large upper rooms of what is known as the "sash and blind" building.

PLANS FOR ENLARGEMENT OF BOTH PRISONS.

Plans are now under way which, when carried to completion, will remedy the conditions last above referred to.

Upon the recommendation of the State Board of Prison Directors, the legislature made an appropriation for new construction at each prison.

The plans outlined by the Board include additional cell room sufficient to allow a single cell for each prisoner, with three nonintercommunicating yards, thus permitting complete segregation at night and a proper classification during the day.

Under appropriations made by the legislature the new construction was begun under the direction and supervision of the Board, as outlined in previous reports. This work has, however, by legislative enactment, been placed under the exclusive jurisdiction and control of the State Engineer.

The early completion of this work is an imperative necessity, and, since substantially all the labor is being performed by the prisoners, we respectfully submit that its return to the jurisdiction of the State Board of Prison Directors would, in our opinion, be advisable.

FURTHER APPROPRIATIONS NECESSARY.

The appropriation for the new construction at San Quentin is now exhausted, and a further appropriation will be necessary to complete the work now under way, which consists of a new 800-cell building and connecting walls enclosing new yard space. The cell building is nearly completed and the walls partially constructed. In addition to these, further cell room will be required, and some additional buildings to complete the plans under which the work of remodeling the prisons was begun.

The work at Folsom is well under way, but not so far advanced as at San Quentin, where the conditions were more serious and necessities greater.

Additional construction will also be necessary at Folsom before complete segregation and proper classification can be accomplished.

For this latter work further appropriations will have to be made.

When the plans above suggested, and referred to more in detail in previous reports, shall have been carried to completion, California will have two thoroughly efficient state prisons in which the right sort of prison work can be satisfactorily conducted.

We cannot urge too strongly the imperative necessity of the early completion of this work.

DISCIPLINE AND PUNISHMENTS.

It is a pleasure to report that at no period in the history of the prisons has there been either better prison discipline or less punishment of prisoners. This is equally true of both prisons.

OPIUM TRAFFIC STAMPED OUT.

We are also pleased to report that by an unceasing vigilance the opium traffic has been stamped out at both prisons. An occasional ineffectual effort is made to smuggle in ''dope,'' as it is called at the prisons, but these efforts have been invariably detected and the leaders punished. The result is that efforts to introduce opium are now rare. Vigilant watch, however, is still strictly maintained.

REFORMATORY.

In our last biennial report we referred at some length to the matter of a Reformatory. At the succeeding session of the legislature (1909) an act was passed directing the State Board of Prison Directors to gather all necessary data, make a research and study of penal institutions, and make a full and comprehensive report to the Governor, with estimates of cost, methods of management, etc., together with draft of suggested laws covering the matter.

A separate and full report will be submitted in relation thereto.

INDETERMINATE SENTENCE.

We have heretofore referred to the question of the indeterminate sentence, now the subject of serious discussion throughout the civilized world. At the recent session of the International Prison Congress, held at Washington, D. C., where the representatives of thirty-seven nations were assembled, the matter was quite thoroughly discussed, resulting in the approval by the congress of the principle of the indeterminate sentence.

We believe the question is worthy of serious consideration by our legislature.

PAROLES.

The one long step taken by California along modern and approved lines of prison management is in connection with the paroling of prisoners.

The parole law was passed in 1893, nearly eighteen years ago. It was admittedly experimental, and grave doubts existed as to its efficiency. These doubts have all been removed and its efficacy thoroughly proven.

For several years after the enactment of the parole law the State Board of Prison Directors proceeded with due and proper caution and with a desire to make sure of their ground. They were pioneering a new movement and blazing the way for other jurisdictions. The result was that for some years paroles were few in number. But as the work progressed and the beneficial effect was noted, the paroles were gradually increased until now about 200 prisoners a year are paroled, and over ten per cent of our state prison population is to-day out on parole.

During the first ten years the parole law was in effect 153 prisoners were paroled. Now, as above noted, more than that number are paroled annually. We now have over 300 prisoners on parole, and the number is steadily increasing. It is estimated that the number of prisoners on parole will in the near future reach 400, when it will probably remain fairly constant, or rather, will thereafter bear a fairly constant ratio toward the total prison population.

To properly look after between 300 and 400 paroled prisoners; to keep in constant touch with them in the various parts of the State; to look after their employment and environment; to personally know their employers and the peace officers to whom they report; to take care of the voluminous correspondence involved in monthly written reports and the many requests and appeals made by the paroled prisoners and their relatives and friends; to keep an accurate and systematic record of the whereabouts, progress, employment, and character of the prisoners on parole; and to do all the multitudinous things necessary to successfully handle such an important and complex problem as that of converting a prisoner into an honorable and law abiding citizen, involves a vast amount of work and detail that can be but vaguely suggested within the limits of an official report.

With our increasing number of paroles we find ourselves unable, through lack of funds, to do all that should be done for the paroled prisoners.

The officers in charge of this work are earnest, faithful, and efficient men, and good results are being accomplished. They should, however, be better provided with office help, and should be able more frequently to visit the paroled prisoners, their employers, and the peace officers to whom they report.

To this end, and in order that the parole work may be put upon a proper basis, we recommend that there be included in the general appropriation bill in the appropriation for the state prisons the following separate item:

For expenses in connection with paroles and aid to paroled and discharged prisoners	$25,320 00

This sum is intended to cover the following estimated items of expenses for the two fiscal years commencing July 1, 1911, and ending June 30, 1913, viz.:

Parole officer's salary, at $150 per month	$3,600 00
Assistant parole officer's salary, at $125 per month	3,000 00
Parole clerk's salary, at $100 per month	2,400 00
Bookkeeper and stenographer's salary, at $100 per month	2,400 00
Office rent—Ferry Building—at $50 per month	1,200 00
Office expenses, stationery, etc., at $50 per month	1,200 00
Telephone charges, at $30 per month	720 00
Aid to discharged prisoners, at $150 per month	3,600 00
Traveling expenses, hotel, railroad fare, etc., for two men at $5 per day each	7,200 00
	$25,320 00

The above estimated items of expense are the same as those now being paid from our maintenance and aid funds, save that the above provides for an additional $300 per annum for the assistant parole officer; provides for an additional clerk at $100 per month, and provides a slight increase in the traveling expenses of the parole officer and his assistant. The main purpose of the above suggestion, however, is to secure a segregation of the parole and aid funds from the general maintenance fund. The increase sought amounts to about $200 per month.

At no point of prison expenditures are the benefits so certainly and fully returned as in connection with paroles. Nearly 1,100 prisoners have been paroled since the passage of the parole law, over three fourths of whom have been paroled within the last five years. Out of every 100 paroled 88 have "made good," and only 12 out of each 100 have violated the terms of their parole. In no other state prison in the world has this percentage of favorable results been equaled.

The work has now grown to such proportions that we have been compelled to organize a special force to properly look after it.

AID TO DISCHARGED PRISONERS.

At the last session of the legislature (1909) an act was passed appropriating $8,000 for aid to discharged prisoners.

This work has been placed in the hands of the parole officer and his assistants, which has added materially to their duties, and under the direction and approval of the Board $3,529.26 has been expended. These expenditures were largely in the way of payment of transportation to places of employment, the purchase of tools and the like, with occasional purchases of shoes or other articles of clothing, and sometimes medicine and medical treatment. A due proportion was also employed in the payment of the necessary expenses of the work.

An accurate and detailed account has been kept of these expenditures.

PRISON LABOR.

The principal employment of the prisoners at San Quentin is in the manufacture of jute bags. At Folsom the prison labor is mostly devoted to rock crushing and to the quarrying and preparing of granite for building purposes. At present, considerable labor at both prisons is also employed in the new construction. At neither prison does the labor performed by the majority of the prisoners fit them for any kind of work at which they could readily find employment after leaving prison. After the new construction has been completed, it will be difficult to keep all the prisoners fully employed at either of the prisons.

INDUSTRIAL FEATURES OF THE PRISONS.

The operation, output, and disposition of the product of the jute mill at San Quentin, and the same matters relating to the quarries and rock crushing plant at Folsom, are all fully set forth in detail in the reports of the Wardens and officers of the two prisons, hereto appended, and to which reference is hereby made. The Folsom farm is now a source of profit for the first time in its history.

EDUCATIONAL FEATURES.

San Quentin.—Under the supervision of the resident chaplain at San Quentin Prison, Rev. W. H. Lloyd, the educational features of that institution have developed in a most satisfactory manner. The chaplain made a canvass of the prison population and selected from those, 24 years of age and under, such as needed educational assistance. These, under the direction of the Warden, were organized into classes, and they are pursuing studies approximating those of an eighth-grade school. There are now 112 day students, one half of whom attend school two hours in the forenoon, and the other half attend two hours in the afternoon. These students are not dismissed from the school until they are able to take an eighth-grade examination.

There is also a night school at San Quentin attended by older prisoners. It is not deemed advisable to have these older prisoners attend the same classes as those attended by the younger prisoners. There are two classes in the evening school, one for white prisoners, and one for colored prisoners. The evening sessions are also two hours each, the same as the day sessions. A third evening class has been recently organized, and a teacher put in charge who understands Spanish, and to some extent Italian also. In this class it is designed to gather the Italian and Spanish speaking prisoners in order that they may learn English, and that they may also pursue such other studies as may be deemed desirable.

The chaplain is assisted by three prisoners who teach. One colored boy, who is in an advanced class in the day school, has charge of the colored prisoners in the evening school.

Folsom.—While we have no resident chaplain at Folsom prison, the Warden has furnished every opportunity and facility for the educational improvement of the prisoners. He has canvassed the prison for this purpose, and has purchased books and other equipment for the use of the prisoners. Through the courtesy of the State Superintendent of Public Instruction, Hon. Edward Hyatt, the Warden has been greatly assisted in the matter of text-books for the prisoners.

The interest taken by the prisoners, particularly the younger ones, in these matters, is most gratifying.

ASYLUM FOR CRIMINAL INSANE.

The asylum for the criminal insane is still in process of construction. It is being erected on Folsom prison land, is being constructed of granite, quarried and prepared by the prisoners, and the work of construction is being done by prison labor, but under the exclusive direction and supervision of the State Engineer.

REPORTS OF OFFICERS.

The reports of the Wardens and officers of the two prisons set forth in detail the work, conduct, and management of the prisons, including financial, industrial, and other data, all of which will repay a careful reading and study.

We can not close without expressing our deep appreciation of the unfailing courtesy and assistance we have constantly received at your hands, and of the great interest you have at all times taken in prison matters.

Respectfully submitted,

TIREY L. FORD,
ROBT. T. DEVLIN,
C. E. CLINCH,
W. R. PORTER,
State Board of Prison Directors.

WARDEN'S REPORT.

San Quentin, Cal., October 24, 1910.

To the Honorable State Board of Prison Directors.

Gentlemen: I have the honor to submit herewith my report of the State Prison at San Quentin, California, for the sixtieth and sixty-first fiscal years, accompanying which you will find the reports of the Clerk of the Prison, Captain of the Yard, Captain of the Guard, Commissary, Distributing Officer, Resident Physician, Turnkey, and Chaplain, and Librarian; also a detailed statement of the operation of the jute mill during the said two years.

Prison population.—There has been a steady, but comparatively rapid, increase in the population of this institution during the past two years. At the close of the fifty-ninth fiscal year the population was 1,702. There were received during the sixtieth fiscal year 747, and 635 prisoners were discharged, being an increase for the year of 112, and leaving a total population June 30, 1909, of 1,814. During the past fiscal year, ending June 30, 1910, there were received 778, and 670 prisoners were discharged, making an increase of 108 for the year, and a total population at the close of the year of 1,922.

The number of United States prisoners has been materially diminished, as in January last there were 11 of said prisoners transferred to the United States Penitentiary at Leavenworth, Kansas, and it seems now to be the policy of the Government to send only very short term prisoners here.

Notwithstanding the crowded condition of the institution the health of the inmates has been good.

Discipline.—The prison discipline has been excellent, and there have been no escapes during the past two years.

Cost of maintenance.—Owing to the severe loss sustained through the fire which destroyed one of our jute warehouses and contents, besides damaging a large amount of jute in another warehouse, the cost of maintenance was materially increased for the sixtieth fiscal year. It will be observed, however, that the net cost of maintenance for the sixty-first fiscal year has again assumed a normal figure, being 33.1 cents per capita per day.

Repairs and improvements.—The usual care and attention have been given to the matter of repairs and improvements, but owing to our appropriation for maintenance being inadequate to our needs, on account of the high prices we have been compelled to pay for supplies, it has been necessary to exercise the strictest economy in this respect. The road gang has been steadily employed in improving the roads of the prison grounds, and for the past year has also been engaged in making extensive improvements and repairs on the county roads of Marin County.

Parole system.—Comparatively, our parole system may be said to be very successful, as will be seen by reference to the reports of the turnkey (Table No. 10). For the sixtieth and sixty-first fiscal years there were 308 paroles granted; the average percentage of violations for the two fiscal years is 10.45. The slight increase in the percentage of violations may, I think, be justly attributed to the fact that we now have three good men connected with the state parole office who are active in looking after our paroled prisoners, and the result has been that a greater number of violations have been detected and reported than formerly. It is also to be expected that there will be a slight increase in violations, due to the fact that recidivists are now parolable. Thus far, however, the increase from this source is not appreciable.

Increase in guards' salaries.—The increase in the salaries of the guards of this institution, which took effect January 1, 1910, though small, has had the effect of a material decrease in resignations and changes in the personnel of our guard force, and this has also been augmented by the restoration of the allowance to guards of $10 per month in lieu of board, and the partial restoration of commissary privileges.

Construction work.—I would suggest that steps be taken to secure a further appropriation during the coming session of the state legislature for continuing the construction work at this institution, in order that a new dining room, kitchen, chapel, and additional cell accommodations may be provided without unnecessary delay.

Conclusion.—I beg to extend to your Honorable Board my sincere thanks for the many courtesies shown me during my administration.

I also feel myself under deep obligations to the officers and guards of the institution for their hearty coöperation with me in my endeavor to carry out the policy of your Board.

Very respectfully,

JOHN E. HOYLE, Warden.

CLERK'S REPORT.

San Quentin, California, June 30, 1909.

To the Honorable the State Board of Prison Directors.

Sirs: Herewith submitted is a tabulated statement of the financial transactions of this prison for the sixtieth fiscal year, ended June 30, 1909, together with a summary of assets and liabilities and comparative tables showing per capita cost of maintenance and subsistence.

In connection with this report the following facts and figures are presented:

Comparative statement for the three fiscal years ending June 30, 1909.

Total gross expense, fifty-eighth fiscal year	$226,902 73
Total gross expense, fifty-ninth fiscal year	234,069 12
Total gross expense, sixtieth fiscal year	300,939 28
Net expense, fifty-eighth fiscal year	$132,806 10
Net expense, fifty-ninth fiscal year	194,068 60
Net expense, sixtieth fiscal year	282,285 09
Jute mill earnings, fifty-eighth fiscal year	80,989 03
Jute mill earnings, fifty-ninth fiscal year	26,866 56
Jute mill expense, sixtieth fiscal year	62,492 93
Average number of prisoners, daily, fifty-eighth fiscal year	1,567⅗
Average number of prisoners, daily, fifty-ninth fiscal year	1,622⅚
Average number of prisoners, daily, sixtieth fiscal year	1,730½
Increase in two years, 163.	
Expense per head per day, gross, fifty-eighth fiscal year	$0.5475
Expense per head per day, gross, fifty-ninth fiscal year	.4008
Expense per head per day, gross, sixtieth fiscal year	.4765

Sixtieth fiscal year.

Gross expense	$300,939 28
Less expenses caused by fire (actual fire loss)	58,420 67
	$242,518 61
Expense per head per day on this basis	$0.3839

It will be noted that the jute department shows an earning for the fifty-eighth and fifty-ninth fiscal years, respectively, whereas during the sixtieth fiscal year the cost of operation (including fire loss) over and above receipts was $62,492.93. In addition to this unusual expense $7,595.41 was expended in general repairs, a considerable portion of which was used in restoring the damaged jute warehouse to its former condition of utility, and $1,500 was expended in establishing a fire department, 2,000 feet of fire hose being purchased, all of which expenses enter into the computation of the cost per capita.

The cost of subsistence for the year is considerably less than that of the previous year, although the prison population averaged more than 100 per day over that of the preceding year. The excellent financial management of the prison for the year is unfortunately smothered under losses by fire, and the nonsale of grain bags, conditions over which the prison management had no control.

In view of the foregoing, and in order that the figures shown in the following report may be taken at their real value, this explanation is respectfully made.

W. D. STURTEVANT, Clerk.

TABLE

Cash Statement of the California State Prison at San

CASH,

Account.	1908.				
	July.	August.	September.	October.	November
Balance cash on hand July 1, 1908	$397 50				
General appropriation fifty-ninth fiscal year	29,275 83				
General appropriation sixtieth fiscal year	487 85	$27,507 25	$24,940 95	$24,397 94	$26,227 49
Jute revolving fund					
United States		1,763 90	519 00	2,012 30	823 00
Jute department	8 50	57 15	14 10	119 82	227 97
Commissary department	231 21	27 54	99 98	36 92	23 55
Hospital department	10 90	8 65	10 25	9 30	16 30
Distributing department	29 95	26 18	26 90	25 70	37 60
Stable					7 90
Board and rent	203 40	250 85	238 05	200 35	207 90
Laundry department	79 30	83 25	102 35	79 30	98 85
Grain bags	14,126 62	1,931 75	334 75	331 50	156 00
Miscellaneous	2 00	2 00	2 00	2 00	2 85
Horseshoeing and wheelwright department	1 50				1 50
Water	10 65	8 55	10 95	9 95	5 10
Gas	8 85	8 25	6 15	4 00	2 55
Salary refund			9 68		
Totals	$44,874 06	$31,675 32	$26,315 11	$27,229 08	$27,838 56

CASH

Account.	1908.				
	July.	August.	September.	October.	November
General fund	$577 76	$2,179 17	$1,015 63	$2,379 82	$1,227 10
Jute revolving fund	14,135 12	1,988 90	348 85	451 32	383 97
Merchandise	16,260 79	15,649 04	12,759 31	12,630 88	14,116 70
Salaries of officers and guards	5,946 00	5,991 56	5,854 10	5,892 00	5,972 21
Salaries of jute mill employés	2,776 65	2,688 51	2,731 10	2,771 00	2,767 86
Allowances paid discharged prisoners	160 00	255 00	100 00	265 00	130 00
Transportation furnished discharged prisoners	179 15	244 55	102 55	221 85	150 65
Cost of transferring insane prisoners				15 20	
Gas	212 10	215 70	212 10	250 35	283 50
Electric light	552 50	558 20	549 50	590 50	607 50
Water	820 97	746 07	707 73	630 01	655 56
Drugs and chemicals	253 71	111 27	126 41	102 06	55 99
Prison Directors' expenses	234 65	15 90	64 70	20 40	54 95
Execution account		50 00	25 00	25 00	
Electrical supplies	46 42	75 44	24 90	79 42	72 33
Electric power	900 00	900 00	900 00	900 00	900 00
United States	13 70			19 05	10 70
Raw jute and freight					
Advertising	27 55				
General expense	139 68	144 36	393 10	170 26	334 32
Freight and cartage	1,104 81	174 00	126 90	33 19	31 32
Balance cash on hand June 30, 1909					
Totals	$44,341 56	$31,987 67	$26,041 88	$27,447 31	$27,754 66

No. 1.

Quentin for the Sixtieth Fiscal Year ending June 30, 1909.

RECEIPTS.

	1909.						Totals.
December.	January.	February.	March.	April.	May.	June.	
							$397 50
							29,275 83
$24,841 07	$9,217 57	$40,908 54	$8,880 37	$48,985 67	$27,480 30	$28,570 32	292,445 32
12 00	27,149 55		95,844 02	376 20	1,484 05	51,200 00	176,065 82
	1,998 70	3,052 75		81 50	2,865 25		13,116 40
124 25	4 00	3 44	85 20	195 05	5,038 00	5,540 45	11,417 93
102 58	11 88	15 39	11 69	13 61	14 86	22 86	612 07
12 90	17 00	22 65	11 85	19 85	9 90	9 40	158 95
27 30	32 15	29 40	29 30	43 05	34 75	30 50	372 78
	7 50	7 50	7 50	7 50	7 50	8 25	53 65
207 55	196 60	167 50	150 20	188 75	183 30	161 55	2,356 00
69 40	63 95	85 40	65 70	69 00	70 80	92 25	959 55
	1,507 53	6,686 70	3,330 02	7,380 30	32,119 73	52,167 11	120,072 01
3 00	3 00	2 00	2 00	3 20	2 00	4 20	30 25
							3 00
4 05					6 30	10 65	66 20
3 30	5 40	6 45	16 05	3 40	10 50	14 00	88 90
							9 68
$25,407 40	$40,214 83	$50,987 72	$108,433 90	$57,367 08	$69,327 24	$137,831 54	$647,501 84

DISBURSEMENTS.

	1909.						Totals.
December.	January.	February.	March.	April.	May.	June.	
$430 08	$2,336 18	$3,389 04	$294 29	$429 86	$3,205 16	$353 66	$17,817 75
124 25	1,511 53	6,690 14	3,415 22	7,575 35	37,157 73	57,707 56	131,489 94
12,677 68		12,145 40	12,788 13	32,539 18	15,315 61	16,987 71	173,870 43
6,040 00	5,997 39	5,995 45	6,044 30	6,076 75	5,906 00	5,930 29	71,646 05
2,729 00	2,770 33	2,762 08	2,773 58	2,684 66	2,639 13	2,591 12	32,685 02
135 00	135 00	215·00	180 00	135 00	190 00	175 00	2,075 00
154 00	140 75	220 80	128 45	143 55	181 50	112 30	1,980 10
		11 00	10 70				36 90
324 00		339 15	463 35	717 45	319 50	254 25	3,591 45
716 50		709 50	785 50	1,347 00	662 50	598 50	7,677 70
408 38		537 00	383 52	997 28	665 80	556 20	7,108 52
111 17		147 02	98 13	221 25	176 60	154 99	1,558 60
21 50			158 19	128 45	105 95	12 65	817 34
			50 00				150 00
148 58		96 32	45 12	108 95	96 39	69 18	863 05
900 00		900 00	900 00	900 00	900 00	900 00	9,900 00
	16 05	10 70		10 70	26 75		107 65
12 00	27,149 55		95,844 02	376 20	1,484 05	51,200 00	176,065 82
			112 40	30 00		118 65	288 60
238 48		687 91	361 89	717 26	339 63	278 68	3,805 57
187 28		55 91	104 46	1,827 99	73 94	118 10	3,837 90
						128 45	128 45
$25,357 90	$40,056 78	$34,912 42	$124,941 25	$56,966 88	$69,446 24	$138,247 29	$647,501 84

TABLE No. 2.—*Abstract of Expenses, California State Prison at San Quentin, for the Sixtieth Fiscal Year, ended June 30, 1909.*

	Amount.	Total.
Discharged prisoners' allowances		$2,075 00
Discharged prisoners' transportation		1,980 10
Transporting insane prisoners		36 90
Prison Directors' expenses		689 39
Execution account		150 00
Salaries		71,768 34
Water		6,066 92
Gas		3,673 85
Electric light		7,737 70
Jute Department		62,492 93
Commissary		988 60
Turnkey's department		245 25
Guards' department		1,498 95
Distribution department		29,004 07
Female department		543 68
Hospital department		2,096 86
Laundry		89 10
Electrical department		490 67
Stable		4,314 81
Warden's residence, furniture and fixtures		260 16
General expense		6,360 68
General repairs		7,608 53
Clerk's office (administration building)		258 37
City office, State Board of Prison Directors		558 07
General improvements		1,234 73
Prison mess	$64,163 79	
Officers and guards' mess	11,609 10	
Hospital mess	4,747 38	
Night guards' mess	5,795 43	
Female mess	2,398 92	88,714 62
Total gross expense		$300,939 28

TABLE No. 3.—*Maintenance of Prisoners, California State Prison at San Quentin, for the Sixtieth Fiscal Year, ended June 30, 1909.*

	Amount.	Total.
Daily average number of prisoners during year		1,730½
Total cost		$300,939.28
Average cost per month		25,078.27
Average cost per head per month		14.4119
Average cost per day		824.49
Average cost per head per day		.4765
Total expenses for the year (Table No. 3)		$300,939.28
Support of United States prisoners	$11,396 50	
Rent of state houses	1,113 00	
Earnings. captain of yard department	2.494 90	
Earnings. horseshoeing and wheelwright department	104 73	
Earnings, prison farm	3,140 94	
Earnings, library	176 98	
Earnings, general electric fixtures	227 14	18,654.19
Net expenses of the prison for the year		$282,285.09
1. Average cost per month, net		$23,523 76
2. Average cost per day, net		773.38
3. Average cost per head for the year, net		163.12
4. Average cost per head per month, net		13.5936
5. Average cost per head per day, net		.4469

SUPPLEMENTARY STATEMENTS.

For the Sixtieth Fiscal Year ending June 30, 1909.

SUPPLEMENT TO TABLE NO. 3.

	Amount.	Totals.
Net expenses for the year		$282,285 09
Loss by reason of jute fire March 3, 1909—		
Grain bags	$41,642 00	
Raw jute	14,641 59	
Jute material used in effecting salvage	851 23	
Storage on bags and jute in San Francisco	1,285 85	58,420 67
Net expenses for the year, less fire loss		$223,864 42
Average expense per month		$18,655 37
Average expense per day		613 33
Average cost per inmate per month		10 78
Average cost per inmate per day		$.3544
Prison Mess—		
Expenses for the year (see Table No. 2)		$64,163 79
Average daily prison population		1,730½
20 meals per week, 52 weeks—1,040 meals per inmate.		
Total meals consumed by inmates		1,799,720
Less: Female prisoners (average 31)	32,240	
House servants (average 18)	18,720	
Hospital patients and help (average 58)	60,320	111,280
Total meals served by, or charged against, prison mess		1,688,440
Average number boarded each day		1,623½
Cost per inmate for the year		$39 52
Cost per inmate per month		3 29½
Cost per inmate per day		11
Average cost per meal		$.038
Officers and Guards and Night Guards' Mess—		
Expenses for the year (see Table No. 2)		$17,404 53
Officers and guards' mess	$11,609 10	
Night guards' mess	5,795 43	17,404 53
Total meals served		340,741
Expenses for the year	$17,404 53	
Plus credit (against prison mess) for boarding prisoners	3,551 16	
Gross expense		$20,955 69
Average cost per meal, gross		$.061
Average cost per meal, net		.051
Hospital Mess—		
Expenses for the year		$4,747 38
Meals served		60,320
Average cost per meal		$.0787
Female Mess—		
Expenses for the year		$2,398 92
Meals served		32,240
Average cost per meal		$.074
Recapitulation—		
Meals served: Prison mess		1,688,440
Officers and guards' mess	340,471	
Less meals served to prisoners	177,558	162,913
Hospital mess		60,320
Female mess		32,240
Total		1,943,913
Average cost per meal		$.0494

TABLE No. 4.

Assets and Liabilities, California State Prison at San Quentin, for the Sixtieth Fiscal Year ending June 30, 1909.

	Amount.	Totals.
Assets.		
Buildings		$515,326 08
Real estate		50,910 55
Reservoirs		31,278 55
Furniture department		12,925 36
Commissary department, inventory	$4,555 34	
Turnkey's department, inventory	10,627 18	
Captain of yard's department, inventory	28,306 16	
Guards' department, inventory	11,818 84	
Distribution department, inventory	5,137 07	
Female department, inventory	1,240 80	
Hospital department, inventory	5,532 75	
Hospital mess, inventory	422 95	
Electrical department, inventory	6,659 77	
Laundry, inventory	2,175 60	
Stable, inventory	5,950 05	
Horseshoeing and wheelwright department, inventory	1,101 56	
Warden's residence, furniture, and fixtures, inventory	6,767 66	
Officers and guards' mess, inventory	1,979 52	
Prison mess, inventory	5,656 90	
Night guards' mess, inventory	479 64	
Farm, inventory	4,096 55	
Clerk's office, inventory	2,458 31	
Clerk's residence, furniture, and fixtures	494 49	
Library, inventory	1,777 74	
General electrical fixtures	227 14	
		107,466 02
Jute factory and equipment		469,315 13
Jute Department—		
Jute mill, stock and tools	$13,359 56	
Merchandise (raw jute, etc.)	237,018 32	
Office fixtures	230 85	
Water front	1,417 80	
Machine shop	3,768 23	
Carpenter shop	1,900 08	
Foundry	817 15	
Pattern shop	272 20	
Jute tin shop	189 05	
		258,973 24
Due from sundry grain bag purchasers		33,394 12
Cash available, jute revolving fund		53,205 66
General appropriation (support)		19,975 77
General appropriation (salaries)		8,754 71
Cash on hand		128 45
Due for support of United States prisoners		2,886 95
Due from sundry debtors (jute products)		20 40
Due from construction employees, etc.		73 93
Due account jute and commissary charge sheets		34 55
Total		$1,564,669 47
Liabilities.		
Unpaid bills for supplies, etc. (June, 1909)	$19,873 72	
Construction department (by reason of exchanges)	785 78	
Unpaid salaries of officers and guards (June, 1909)	6,077 97	
Unpaid salaries of jute mill employees (June, 1909)	2,595 00	
Total		28,832 47
Excess of assets June 30, 1909, California State Prison		$1,535,837 00

TABLE No. 5.

STATISTICAL FORM FOR STATE INSTITUTIONS.

Prepared in accordance with Resolution of the National Conference of Charities and Corrections adopted May 15, 1906.

California State Prison at San Quentin for the Sixtieth Fiscal Year ending June 30, 1909.

Population.	Male.	Female.	Total.
Number of inmates present at beginning of fiscal year	1,670	32	1,702
Number received during year	739	8	747
Number discharged or died during year	623	12	635
Number on hand at end of fiscal year	1,786	28	1,814
Daily average attendance (*i.e.*, number of inmates actually present) during the year	1,699	31	1,730
Average number of officers and employees during year	113	1	114

EXPENDITURES.

Current Expenses—		
1. Salaries and wages (see footnote)	$71,768 34	
2. Clothing	29,004 07	
3. Subsistence	88,714 62	
4. Ordinary Repairs	7,608 53	
5. Office, domestic and outdoor expenses	103,843 72	
Total		$300,939 28
Extraordinary Expenses—		
1. New buildings, land, etc.		
2. Permanent improvements to existing buildings		
Total		
Grand total		$300,939 28

No. 1. "Salaries and Wages," does not include $32,503.37 paid to jute mill employees as this amount is treated as a jute mill expense.

CLERK'S REPORT

FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

CLERK'S OFFICE, CALIFORNIA STATE PRISON,
SAN QUENTIN, CAL., June 30, 1910.

To the Honorable the State Board of Prison Directors.

GENTLEMEN: I herewith submit, in tabulated form, statements showing all financial transactions of this prison for the fiscal year ended June 30, 1910, together with a summary of assets and liabilities on said date.

Respectfully,

W. D. STURTEVANT, Clerk.

TABLE No. 1.—*Cash Statement of the California State Prison at*

CASH

Account.	1909.				
	July.	August.	September.	October.	November
Balance cash on hand July 1, 1909	$128 45				
General appropriation sixtieth fiscal year	27,183 85	$862 84	$47 75		
General appropriation sixty-first fiscal year	608 50	23,929 29	29,101 24	$26,612 77	$24,688 34
Jute revolving fund			264 75	35 00	
Reformatory appropriation					
United States		2,067 95			
Support of naval prisoners	45 50	773 50			766 50
Jute department	9 75	424 48	6,810 01	163 40	433 30
Commissary department	27 73	201 53	193 26	214 82	190 50
Hospital department	11 85	15 50	9 35	9 85	13 50
Farm	4 10	9 50			
Distribution department	30 95	30 45	26 45	29 40	29 25
Stable	13 25	15 00	18 25	8 90	17 30
Board	111 35	99 70	76 05	115 50	93 60
Laundry	75 90	90 25	73 05	76 50	92 55
Grain bags	9,795 02	1,777 09	14 37	23,021 56	57 50
Water	13 20	16 15	15 60	14 10	
Gas	8 05	11 55	11 05	17 50	13 35
Rent	94 00	91 00	91 00	86 00	85 15
Prison mess			203 10		
Captain of yard's department				50	
Horseshoeing and wheelwright department					
Salary refund					
Totals	$38,161 45	$30,415 78	$36,955 28	$50,405 80	$26,480 84

CASH

Account.	July.	August.	September.	October.	November
General fund	$435 88	$3,220 55	$527 81	$363 62	$1,114 75
Jute revolving fund	9,804 77	2,201 57	6,824 38	23,184 96	490 80
General appropriation support		201 53	189 35	209 45	186 95
Salaries of officers and guards	6,077 97	6,166 62	6,158 88	6,128 66	6,174 36
Salaries of jute mill employees	2,595 00	2,536 91	2,546 59	2,577 00	2,564 01
Board allowances to employees					
Allowances paid discharged prisoners	160 00	160 00	225 00	155 00	145 00
Transportation to discharged prisoners	151 80	132 10	223 20	152 75	131 15
Transportation of insane prisoners		11 25	13 75	8 90	
Merchandise	14,996 90	12,473 24	16,944 46	14,343 56	12,436 46
Gas	383 40	85 50	255 30	310 05	316 05
Water	640 71	756 72	752 40	771 85	610 17
Electric light	612 50	583 50	581 50	627 50	672 50
Drugs and chemicals	213 84	280 14	135 07	161 53	156 79
Electrical supplies	68 67	38 08	1 20	36 08	17 22
Electric power	900 00	900 00	900 00	823 50	900 00
United States discharged prisoners	24 40	5 35	5 35	5 35	10 70
Raw jute, freight thereon, and insurance			264 75	35 00	
Advertising	9 00				
Prison directors' expenses	19 85	29 95			29 20
Parole officers' expenses	15 20	36 15	100 25	35 65	15 30
Freight and cartage	441 67	115 17	106 48	59 62	137 56
Refund to J. Cooper, (account overcharge)					
General expense	209 14	330 75	311 31	453 37	363 02
Reformatory appropriation creditors					
Balance cash on hand June 30, 1910					
Totals	$37,760 70	$30,265 08	$37,067 03	$50,443 40	$26,471 99

San Quentin for the Sixty-first Fiscal Year ending June 30, 1910.

RECEIPTS.

	1910.						Totals.
December.	January.	February.	March.	April.	May.	June.	
							$128 45
						$81 85	28,176 19
$28,966 88	$26,454 37	$9,429 72	$45,393 05	$25,475 09	$26,998 13	28,558 79	296,216 27
870 85		31,310 30		41,611 85		385 70	74,478 45
				50 00	50 00		100 00
1,973 60			2,090 40			1,614 75	7,746 70
			771 00			746 50	3,103 00
28 65	254 80	24 00	107 80	57 06	283 49	238 60	8,835 34
217 45	397 32	317 42	250 72	406 98	544 59	268 86	3,231 18
15 35	15 15	14 90	9 85	10 75	12 35	10 90	149 30
2 00	2 00	2 00	2 00	2 00	2 00	2 00	27 60
32 30	30 45	30 85	36 05	40 20	43 40	30 05	389 80
15 00	7 50	10 75	13 75	7 50	12 25	7 50	146 95
121 70	92 20	41 30	52 50	40 15	75 80	46 75	966 60
71 60	66 40	82 85	66 55	76 15	112 73	82 70	967 23
	3,559 63	2,385 53	10,246 02	15,133 48	82,419 52	116,324 76	264,734 48
			7 65	6 00	10 70	14 85	98 25
16 50	18 85	22 35	18 30	16 80	16 35	13 35	184 00
85 00	91 00	91 00	91 00	91 00	93 00	93 00	1,082 15
							203 10
							50
					3 83		3 83
	1 93						1 93
$32,416 88	$30,991 60	$43,762 97	$59,156 64	$83,025 01	$110,678 14	$148,520 91	$690,971 30

DISBURSEMENTS.

December.	January.	February.	March.	April.	May.	June.	Totals.
$2,333 05	$323 55	$1,067 00	$2,388 05	$290 55	$382 41	$2,662 35	$15,109 57
28 65	3,813 43	2,409 53	10,353 82	15,190 54	82,703 01	116,563 36	273,568 82
217 45	397 32	317 42	250 72	406 98	544 59	268 86	3,190 62
6,259 66	6,247 12	6,185 04	6,155 37	6,312 16	6,241 15	6,264 89	74,371 88
2,621 00	2,554 31	2,469 51	2,477 68	2,473 70	2,460 50	2,400 32	30,276 53
		520 00	588 21	575 00	565 00	590 00	2,838 21
125 00	130 00	155 00	120 00	155 00	130 00	200 00	1,860 00
139 10	111 40	150 70	127 10	173 75	197 90	231 25	1,922 20
	27 90			10 85	5 10	5 90	83 65
16,558 49	13,733 53		29,612 83	12,280 90	13,783 07	14,312 29	171,475 73
328 35	427 50		854 55	315 30	297 15	265 50	3,838 65
490 09	525 48		988 99	558 15	617 78	753 97	7,466 31
711 50	744 50		1,497 00	686 50	637 90	613 50	7,968 40
112 38	143 25		195 15	125 32	141 06	139 91	1,804 44
190 02	77 25		53 29	39 42	76 74	20 40	618 37
900 00	900 00		1,800 00	900 00	900 00	900 00	10,723 50
5 35		5 35	21 40	5 35	32 75	16 05	137 40
870 85		31,310 30		41,611 85		385 70	74,478 45
				132 30		56 65	197 95
19 35	158 70			114 30	59 90		431 25
13 60	9 90			50 86	87 42	59 86	424 19
224 12	233 12		250 45	95 50	321 26	1,701 26	3,686 21
			1 00				1 00
298 77	347 06		561 43	455 68	347 30	556 19	4,234 02
				50 00	50 00		100 00
						163 95	163 95
$32,446 78	$30,905 32	$44.589 85	$58,297 04	$83,009 96	$110,581 99	$149,132 16	$690,971 30

TABLE No. 2.

Abstract of Expenses for the Year ending June 30, 1910.

Account.	Amount.	Totals.
Captain of the yard's department		$401 14
Captain of the guard's department		2,267 93
Distribution department		27,528 58
Female department		312 68
Discharged prisoners' transportation		1,922 20
Discharged prisoners' allowances		1,860 00
Transportation of insane prisoners		83 65
Directors' expenses		479 75
Execution account		25 00
Salaries		74,585 13
Water		6,471 66
Gas		3,543 20
Electric light		7,962 00
Hospital department		2,712 56
Electrical department		356 87
Laundry		261 35
Stable		5,463 25
Horseshoeing and wheelwright department		240 07
Warden's residence, furniture, and fixtures		442 25
General repairs		4,077 72
Clerk's office		561 05
City office, State Board of Prison Directors		559 36
General improvements		201 71
General electrical fixtures		18 06
Paroled prisoners		553 62
Board allowances		1,848 21
Bureau of identification, San Francisco		120 00
Subsistence—		
Prison mess	$68,639 86	
Hospital mess	4,537,71	
Female mess	2,595 38	
Officers and guards' mess	11,928 77	
Night guards' mess	5,796 96	
General Expense—		93,498 68
Jute department	$1,519 81	
Warden's residence, current expenses	369 73	
Moral and religious instruction	90 00	
Advertising	56 65	
Postage	675 00	
Telephone and telegraph charges	481 61	
Traveling, express charges, and miscellaneous expenses	1,646 25	
		4,839 05
Printing		1,250 00
Total gross expense		$244,446 73

TABLE No. 3.

Maintenance of Prisoners for the Year ending June 30, 1910.

Gross expenses for the year		$244,446 73
Support of United States prisoners	$9,550 50	
Earnings of jute department	9,433 31	
Earnings of commissary department	5 03	
Earnings, rent account	847 15	
Earnings of farm	2,665 54	
Increment of prison library	515 26	
Increment of turnkey's department	83 82	23,100 61
Net expenses for the year		$221,346 12
Gross expenses for the year		$244,446 73
Daily average number of prisoners on hand during the year, $1,832\frac{62}{365}$.		
Average gross cost per month		20,370.56
Average gross cost per day, 365 days		669.72
Average gross cost per capita for the year		133.42
Average gross cost per capita per month		11.10
Average gross cost per capita per day		.3653
Net expenses for the year		$221,346 12
Daily average number of prisoners on hand during the year, $1,832\frac{62}{365}$.		
Average cost per month, net		18,445.51
Average cost per day, net		606.40
Average cost per capita for the year, net		120.81
Average cost per capita per month, net		10.07
Average cost per capita per day, net		.331

TABLE No. 3a.

Supplementary Statement of Subsistence Account.

Prison Mess.

Net expense for the year (Table No. 2)		$68,639 86
Average daily prison population, $1832\frac{62}{365}$.		
20 meals per week, 52 weeks, equals 1,040 meals per inmate.		
Total meals consumed by inmates		1,906,496
Less female prisoners (average $29\frac{210}{365}$)	30,760	
Less house servants (average 20)	20,800	
Less hospital patients and help (average 54)	58,689	110,249
Total meals served by or charged against prison mess		1,796,247
Average number boarded each day		1,729
Cost per inmate for the year		$39 70
Cost per inmate per month		3 31
Cost per inmate per day		.1087
Average cost per meal		.0362

Officers and Guards and Night Guards' Mess.

Net expense for the year (Table No. 2)		$17,725 73
Total meals served		334,688
Expense for the year, net	$17,725 73	
Plus credit (charged against prison mess for boarding prisoners)	3,992 94	
Gross expense for the year		$21,718 67
Average cost per meal, gross		$.0648
Average cost per meal, net		.052

Female Mess.

Expenses for the year (Table No. 2)	$2,595 38
Meals served	30,760
Average cost per meal	$.0843

Hospital Mess.

Expenses for the year (Table No. 2)	$4,537 71
Meals served	58,689
Average cost per meal	$.0773

TABLE No. 3A—*Continued.*

Recapitulation.

Meals served, prison mess		1,796,247
Officers and guards and night guards' mess	334,688	
Less meals served to inmates and charged against prison mess	199,647	
		135,041
Female mess		30,760
Hospital mess		58,689
Total meals served		2,020,737
Total cost of subsistence		$93,498 68
Average cost per meal		$.0462

TABLE No. 4.

Assets and Liabilities June 30, 1910.

Assets.	Amount.	Totals.
Permanent—		
Buildings		$515,326 08
Real estate		50,910 55
Reservoirs		31,278 55
Furniture department		12,925 36
Jute factory and equipment		469,315 13
Captain of the yard, inventory	$28,541 72	
Commissary department, inventory	4,744 45	
Turnkey's department, inventory	11,588 03	
Female department, inventory	1,298 48	
Guards' department, inventory	10,362 05	
Distribution department, inventory	5,954 40	
Hospital department, inventory	4,874 00	
Hospital mess, inventory	424 80	
Electrical department, inventory	6,703 25	
Stable, inventory	5,391 40	
Warden's residence, furniture, and fixtures, inventory	6,625 44	
Horseshoeing and wheelwright department, inventory	853 68	
Officers and guards' mess, inventory	1,889 96	
Prison mess, inventory	5,656 90	
Farm and garden, inventory	4,242 95	
Clerk's office, inventory	2,463 29	
General electrical fixtures, inventory	240 02	
Laundry, inventory	2,175 05	
Night guards' mess, inventory	459 99	
Library, inventory	2,463 12	
Jute department, inventory	139,415 19	246,368 17
Clerk's residence, furniture, and fixtures		494 49
Available—		
Due from sundry purchasers of grain bags		55,816 78
Jute revolving fund		200,000 00
General appropriation, support		17,947 96
General appropriation, salaries		9,276 49
United States, due for board of prisoners		1,239 15
Bureau of navigation, due for board of prisoners		736 50
U. S. R. S. Independence, due for board of prisoners		8 50
Marin Furniture Company (sale of jute products)		19 50
Due from construction employees		91 19
Due account jute and commissary charge sheets		192 35
Due from construction department (by reason of exchanges)		2,206 71
Warden's residence, current expenses		126 34
T. E. Atkinson (account of overpayment)		8 00
Cash on hand		163 95
Total assets		$1,614,451 75
Liabilities.		
Unpaid bills for supplies, etc., June	$19,552 97	
Unpaid salaries of officers and guards, June	6,293 15	
Unpaid salaries of jute mill employees, June	2,391 16	
Unpaid bills for raw jute and freight thereon	18,265 23	46,502 51
Excess of assets June 30, 1910, California State prison		$1,567,949 24

TABLE No. 5.

Prepared in accordance with resolution of the National Conference of Charities and Corrections: adopted May 15, 1906.

California State Prison at San Quentin, for the year ended June 30, 1910.

Population.	Male.	Female	Totals.
Number of inmates present at beginning of fiscal year	1,786	28	1,814
Number received during the year	768	10	778
Number discharged or died during the year	661	9	670
Number on hand at end of fiscal year	1,893	29	1,922
Daily average attendance (*i. e.*, number of inmates actually present)	1,803	30	1,833
Average number of officers and employees during the year	112	1	113

EXPENDITURES.

Current Expenses—		
1. Salaries and wages. (See footnote)	$74,585 13	
2. Clothing	18,744 90	
3. Subsistence	93,498 68	
4. Ordinary repairs	4,279 43	
5. Office, domestic, and outdoor expenses	103,820 82	
Total		$294,928 96
Extraordinary Expenses—		
1. New buildings, land, etc. (see footnote 2)		
2. Permanent improvements to existing buildings		
Grand total		$294,928 96

---

1. "Salaries and wages" does not include $30,072.69 paid to jute mill employees, whose salaries are considered and treated as a jute mill expense, which expense is embraced under No. 5, "Office, domestic, and outdoor expenses."

2. New cell houses, and cottages for employees in course of construction, are under the supervision of the State Department of Engineering, and the expenses in connection with said buildings are paid from a special appropriation for that purpose, controlled by the Department of Engineering.

COMMISSARY'S REPORT.

FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

To Hon. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

DEAR SIR: Herewith is respectfully submitted a full and detailed report from the books of the Commissary Department, for the sixtieth fiscal year ending June 30, 1909.

Yours very respectfully,

IRVING T. BALLARD,
Commissary.

COMMISSARY BALANCE SHEET FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

MERCHANDISE.

Debits.

Merchandise, inventory July 1, 1908		$4,958 37
Purchases for Commissary Account—		
July, 1908	$13,560 91	
August	12,611 27	
September	12,163 74	
October	11,732 36	
November	12,100 94	
December	12,011 62	
January, 1909	12,551 77	
February	12,323 83	
March	14,946 33	
April	15,091 60	
May	13,137 30	
June	15,124 50	
		157,356 17
Jute department accounts for year		31,847 95
Miscellaneous accounts for year, including general expenses, light, water, and gas, etc.		26,528 33
Transferred from construction account		755 50
Transferred from distribution account		1 25
Total		$221,447 57

Credits.

Issues to various departments	$217,459 37
Merchandise sold for cash	103 13
Merchandise inventory, June 20, 1909	3,885 07
Total	$221,447 57

ISSUES OF MERCHANDISE TO VARIOUS DEPARTMENTS FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

General expense—		
Miscellaneous accounts	$27,481 25	
Less disallowed claims	952 92	
		$26,528 33
Supplied from commissary		236 70
Furniture and fixtures, prison buildings		869 12
Furniture and fixtures, officers and guards' quarters		116 71

Furniture and fixtures, warden's residence	$336 08
General repairs	5,409 21
Prison directors' office, San Francisco	7 38
Prison mess	61,110 56
Female mess	1,980 59
Hospital mess	4,219 37
Officers and guards' mess	15,181 86
Night guards' mess	5,164 40
Warden's residence, current expenses	1,560 30
Medical department	2,183 19
Guards' department	684 32
Distribution department	28,094 59
Female department	229 11
Turnkey's department	738 15
Laundry department	1,012 23
Captain of yard department	416 43
State tin shop	983 65
Plumbing shop	352 43
Chaplain's department	177 89
Clerk's office	584 94
Horseshoeing and wheelwright department	290 78
Stable department	6,455 42
Farm and garden department	1,732 70
Commissary department	228 86
Electrical department	889 85
Construction department	297 55
Jute mill department	45,816 24
Jute engine	218 14
Machine shop	818 48
Foundry	296 63
Carpenter shop	1,881 69
Jute tin shop	355 49
Total	$217,459 37

SEGREGATION OF COMMODITIES FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

Subsistence		$87,283 71
Forage		7,269 61
Fuel, wood, coal, and oil		15,157 13
Clothing		11,673 40
Shoes		4,882 75
Beds and bedding		2,017 24
Tobaccos		6,187 17
Stationery		1,303 79
Drugs and medicines		2,015 18
Furniture and fixtures		4,299 92
Tools and machinery		5,109 74
Iron, tin, and plumbing supplies		4,380 01
Building material, lumber, lime, cement		5,333 40
Paints, oils, and chemicals		9,917 67
Wagons and harness		345 12
Ordnance, ammunition, armory supplies		40 23
Photograph material and supplies		512 28
Miscellaneous, including items of general expense, water, gas, and electric lights	$50,683 94	
Less disallowed claims recredited	952 92	
		49,731 02
Total		$217,459 37

TRANSFER OF MATERIAL ISSUED TO VARIOUS DEPARTMENTS.

Furniture and fixtures, prison buildings	$23 08
Furniture and fixtures, officers and guards' quarters	61 27
Furniture and fixtures, warden's residence	34 63
General repairs, buildings, grounds, etc.	2,209 32
Prison mess	1,381 63
Female mess	90
Hospital mess	12 46
Officers and guards' mess	73 21
Night guards' mess	17 01
Warden's residence, current expenses	40
Medical department	117 83
Guards' department	119 68
Distribution department	23 98
Female department	35 42
Turnkey's department	3 96
Laundry department	61 68
Captain of yard's department	350 24
State tin shop	1 55
Plumbing department	88
Chaplain's department	5 88
Clerk's office	6 92
Stable department	10 99
Farm and garden department	24 23
Commissary department	3 83
Electrical department	35 48
Construction department	1,437 09
Jute mill	614 76
Machine shop	23 33
Carpenter shop	2 50
Prison directors' office, San Francisco, Cal.	40 91
Total	$6,735 05

Received From Various Departments.

General expense	$136 68
Prison mess	15 00
Officers and guards' mess	1,059 82
Warden's residence, current expenses	75 00
Construction department	160 92
Medical department	14 80
Guards' department	86
Distribution department	80 54
State tin shop	955 20
Plumbing shop	376 11
Horseshoeing and wheelwright department	155 62
Stable department	1,160 00
Electrical department	303 76
Jute mill	138 00
Machine shop	194 44
Carpenter shop	1,908 30
Total	$6,735 05

STATEMENT OF FARM DEPARTMENT FOR THE YEAR ENDING JUNE 30, 1909.

Credits.	
July, 1908	$489 37
August	431 75
September	582 65
October	259 00
November	329 80
December	387 39
January, 1909	280 19
February	342 15
March	435 65
April	415 20
May	434 88
June	394 34
Total	$4,782 37

Debits.	
To issues of merchandise for year	$1,732 70
Transfer of material from other departments	24 23
Profit for year, farm department	3,025 44
Total	$4,782 37

The products of the farm department were disposed of as follows:

Issued to—Prison mess	$647 25
Female mess	122 50
Hospital mess	297 30
Officers and guards' mess	3,492 90
Night guards' mess	47 35
Warden's residence	54 32
Jute mill	1 70
Sold for cash	119 05
Total	$4,782 37

COMMISSARY DEPARTMENT.

Total value of bread received from prison mess during fiscal year ending June 30, 1909		$1,898 25
Issued to—Female Mess	$294 93	
Hospital mess	285 30	
Officers and guards' mess	748 83	
Night guards' mess	566 79	
Warden's residence	2 40	
		1,898 25

BOARD.

Charged to jute mill for board of guards	$2,664 90
Credited to officers and guards' mess	2,664 90

CASH.

Material sold and services rendered for cash, by the various departments.

Material sold—		
General repairs	$10 00	
Prison mess	261 08	
Officers and guards' mess	24 25	
Medical department	159 90	
Distribution department	374 18	
Horeshoeing and wheelwright department	1 50	
Farm and garden department	119 05	
Commissary department	21 00	
Jute mill	104 90	
Jute engine	18 00	
		$1,093 86
Services rendered—		
General expense, water and gas	$157 15	
Officers and guards' mess, board	845 10	
Laundry department	960 90	
Rents, officers and guards' quarters	1,107 00	
Stable department, board	59 00	
		$3,129 15

Merchandise sold for cash		$103 13
Profit and loss, commissary department		91 06
Total		$4,417 20

Deposited with Warden.

Cash	$400 82	
Deductions from payroll	3,643 08	
Collections	373 30	
		$4,417 20

REPORT OF THE COMMISSARY DEPARTMENT

FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

San Quentin, Cal., July 1, 1910.

To Hon. John E. Hoyle, *Warden of State Prison at San Quentin, Cal.*

Dear Sir: I herewith submit the annual report of the commissary department for the sixty-first fiscal year ending June 30, 1910.

Respectfully,

IRVING T. BALLARD, Commissary.

COMMISSARY BALANCE SHEET FOR FISCAL YEAR ENDING JUNE 30, 1910.

Merchandise.

Debits.

Merchandise inventory, July 1, 1909		$3,885 07
Purchases during the year, commissary account—		
July, 1909	$12,000 56	
August	14,594 42	
September	14,543 22	
October	12,087 29	
November	14,099 65	
December	14,036 15	
January, 1910	14,616 82	
February	12,448 00	
March	12,699 59	
April	13,710 08	
May	14,234 94	
June	13,670 38	
		162,741 10
Jute department accounts for the year		24,106 89
Miscellaneous accounts for the year, including general expenses, light, water, gas, etc.		31,955 79
		$218,803 78
Less disallowed claims		142 70
Net total		$218,661 08
Transferred from construction account		631 78
Returned, after charged out to other departments		15 94
Total debits for the year		$223,193 87

Credits.

Issues to various departments	$216,407 43
Merchandise sold for cash (Includes commissary cash item.)	2,759 00
Merchandise inventory, June 30, 1910	4,027 44
Total credits for the year	$223,193 87

ISSUES OF MERCHANDISE TO THE VARIOUS DEPARTMENTS FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

General expense—		
Miscellaneous accounts	$32,000 79	
Less disallowed claims	142 70	
		$31,858 09
Supplied from Commissary		82 28
Furniture and fixtures, prison buildings		152 41
Furniture and fixtures, officers and guards' quarters		48 95
Furniture and fixtures, warden's residence		267 03
Furniture and fixtures, clerk's residence		35
General repairs		2,629 19
Prison mess		65,352 97
Female mess		2,142 82
Hospital mess		3,897 07
Officers and guards' mess		15,941 47
Night guards' mess		5,177 12
Warden's residence, current expenses		1,183 10
Construction quarry account		1,505 16
Construction department, general		150 99
Medical department		2,108 16
Guards' department		757 65
Distribution department		29,339 63
Female department		331 75
Turnkey's department		875 27
Laundry department		1,154 06
Captain of the yard's department		379 49
State tin shop		647 53
State plumbing shop		200 04
Chaplain's department		161 27
Clerk's office		552 68
Horseshoing and wheelwright department		343 40
Stable department		6,053 14
Farm and garden		1,568 93
Commissary department		316 19
Electrical department		674 78
Jute mill department		36,761 79
Jute engine		1,495 33
Machine shop		735 25
Foundry		200 84
Carpenter shop		1,000 29
Jute tin shop		351 91
Total issues of merchandise		$216,407 43

SEGREGATION OF COMMODITIES FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Subsistence	$93,726 13
Forage	6,821 15
Fuel, wood, coal, and oil	15,834 61
Clothing	11,736 64
Shoes	7,008 26
Beds and bedding	1,192 96
Tobaccos	6,390 71
Stationery	1,222 52
Drugs and medicines	1,850 03

Furniture and fixtures	$1,648 22
Tools and machinery	4,138 61
Iron, tin, and plumbing supplies	2,485 27
Building material, lime, lumber, and cement	2,453 38
Paints, oils, and chemicals	8,245 60
Wagons and harness	610 57
Ordnance, ammunition, and armory supplies	90 82
Photograph material, and supplies	658 95
Miscellaneous, including items of general expense, water, gas, electric lights, etc.	50,293 00
Total value of commodities issued	$216,407 43

TRANSFER OF MATERIAL ISSUED TO VARIOUS DEPARTMENTS FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Debits.

Furniture and fixtures, prison buildings	$49 87
Furniture and fixtures, officers and guards' quarters	23 67
Furniture and fixtures, warden's residence	10 57
General repairs, buildings, grounds, etc.	1,448 53
Prison mess	5,588 67
Female mess	452 83
Hospital mess	646 09
Officers and guards' mess	3,464 35
Night guards' mess	603 14
Warden's residence, current expense	85
Medical department	54 77
Guards' department	53 49
Distribution department	82 82
Female department	38 61
Turnkey's department	1 76
Laundry department	65 72
Captain of the yard's department	364 80
State tin shop	30
Chaplain's department	8 85
Clerk's office	4 55
Stable department	13 90
Farm and garden department	26 81
Commissary department	477 86
Electrical department	4 77
Construction department	1,716 84
Jute mill	2,583 03
Jute engine	50
Machine shop	6 34
Foundry	10
Carpenter shop	93
Jute tin shop	30
General expense	14 51
Construction quarry account	236 78
Sales department	5,197 99
Total interdepartmental debits	$23,334 90

TRANSFER OF MATERIAL FROM VARIOUS DEPARTMENTS FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Credits.

Furniture and fixtures	$25 00
General expense	710 07
Prison mess	2,301 78
Female mess	27
Hospital mess	3 60
Officers and guards' mess	7,014 71
Night guards' mess	2 95

Warden's residence	$316 56
Construction quarry	1,634 82
Medical department	247 07
Distribution department	881 19
Laundry department	963 00
State tin shop	691 88
State plumbing shop	269 80
Clerk's office	1 00
Horseshoing and wheelwright department	351 21
Stable department	1,148 29
Farm and garden department	4,159 53
Commissary department	185 64
Electrical department	279 20
Construction department	705 78
Jute mill	430 52
Machine shop	239 85
Carpenter shop	723 92
Sales department	47 26
Total interdepartmental credits	$23,334 90

STATEMENT OF FARM DEPARTMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Credits.		*Debits.*	
July, 1909	$350 05	To issues of merchandise (commissary)	$1,568 93
August	439 35	Transferred from other departments	26 81
September	371 70	Profit for year, farm department	2,563 79
October	226 85		
November	263 13		
December	350 10		
January, 1910	277 55		
February	330 16		
March	444 21		
April	301 36		
May	418 23		
June	386 84		
	$4,159 53		$4,159 53

The products of the farm were disposed of as follows:

Issued to prison mess	$748 37
Female mess	182 29
Hospital mess	313 13
Officers and guards' mess	2,609 04
Night guards' mess	104 35
Jute mill	2 25
Construction quarry account	48 35
Sold for cash	151 75
	$4,159 53

STATEMENT OF BREAD ISSUES FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Total value of bread issued by the prison mess during the year ending June 30, 1910		$1,881 36
Issued as follows:		
Female mess	$263 35	
Hospital mess	304 95	
Officers and guards' mess	757 47	
Night guards' mess	484 29	
Construction quarry	71 31	
		$1,881 36

Board of Guards for Jute Mill Department.

Total charges against jute mill for meals furnished guards	$2,010 00
Credited to officers and guards' mess for board of jute mill guards	2,010 00

CASH STATEMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Debits.

Material sold for cash by various departments:		
Commissary department	$351 23	
Prison mess	396 50	
Jute mill	293 58	
Distribution department	579 45	
Medical department	150 40	
Farm and garden	151 75	
Merchandise sold for cash	2,407 77	
		$4,330 68
Services rendered:		
General expense, water, gas, etc.		297 40
Permanent improvements, rents		1,081 15
Officers and guards' mess, board		435 00
Stable department		133 55
Laundry department		955 00
Profit and loss, commissary department		177 17
Total		$7,409 95

Credits.

Deposited with the Warden:		
Cash	$920 47	
Deductions from payrolls	5,831 94	
Collections	657 54	
		$7,409 95

JUTE MILL DEPARTMENT

FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

San Quentin, Cal., July 1, 1909.

To Hon. John E. Hoyle, *Warden of State Prison at San Quentin, Cal.*

Sir: In submitting the annual report of the jute mill department for the sixtieth fiscal year, perhaps it will not be amiss to say a few words upon the conditions prevailing during the year.

The new law passed by the last legislature removing certain restrictions upon the sale of our bags did not take effect in time to be of much advantage this season, owing to the fact that raw jute and bags have been gradually declining in price during the past two years, and taking into consideration that prevailing conditions compelled us to carry over nearly 2,000,000 bags last season, which cost six and a fraction cents each, and were sold this season at a loss, this loss being cut down somewhat by the profits on the small amount of bags sold of this season's manufacture.

The report has been carefully compiled, and is

Respectfully submitted.

IRVING T. BALLARD, Commissary.

STATEMENT OF RAW JUTE AND MANUFACTURED GOODS OF THE JUTE MILL DEPARTMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

Raw Jute.

5,345	bales jute in warehouse June 30, 1908, at 400 lbs.	2,138,000 lbs.	
74	bales jute in mill June 30, 1908, at 400 lbs.	29,600 lbs.	
10,067	bales jute purchased during year, at 400 lbs.	4,026,800 lbs.	
	In process of manufacture on July 1, 1908	129,657 lbs.	
			6,324,057 lbs.
5,202	bales jute damaged and partly destroyed by fire and water March 3, 1909, at 400 lbs.	2,080,800 lbs.	
4,536	bales of salvaged jute rebaled, average 387 lbs.	1,755,037 lbs.	
	Loss by fire	325,763 lbs.	
2,466	bales jute on hand June 30, 1909, at 400 lbs.	986,400 lbs.	
2,780	bales jute on hand June 30, 1909, average 387 lbs.	1,083,860 lbs.	
33	bales jute in mill June 30, 1909, average 387 lbs.	12,771 lbs.	
4	bales jute in mill June 30, 1909, at 400 lbs.	1,600 lbs.	
	In process of manufacture on June 30, 1909	121,386 lbs.	
			2,531,780 lbs.
	Net weight of raw jute used during year		3,792,277 lbs.

MANUFACTURED GOODS.

4,959,610 yards 45-inch burlap at .71 lb. per yard	3,521,323 lbs.	
2,204 yards 32-inch burlap at 1 lb. per yard	2,204 lbs.	
Twine used in sewing 4,466,550 bags, at ¼ oz. per yard	69,789 lbs.	
Twine used in tieing bundles for 8,935 bales bags	2,094 lbs.	
Twine used in tieing covers for 8,935 bales bags	279 lbs.	
Twine used in sewing covers for 8,935 bales bags	314 lbs.	
Jute rope used in baling 8,935 bales bags	26,805 lbs.	
Jute rope used in baling 1,014 bales rebaled bags	3,042 lbs.	
Twine used in sewing covers for 436 rebaled bags	31 lbs.	
5-ply twine manufactured	453 lbs.	
Loom waste baled	23,797 lbs.	
Bung cloths manufactured	3,747 lbs.	
		3,653,878 lbs.
Loss in manufacture		138,490 lbs.
Percentage in loss in manufacture, 3.65 per cent.		

GRAIN BAG STATEMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

Bags sold prior to July 1, 1909, awaiting orders for shipment	302,750	
Bags sold during the year at 6½ cents	66,000	
Bags sold during the year at 5¾ cents	2,377,900	
Bags sold, slightly damaged, at 5 cents	209,800	
		2,956,450
Bags shipped during the year	2,185,100	
Bag sales annulled	88,250	
		2,273,400
Bags sold awaiting orders for shipment		683,050
Bags unsold on hand June 30, 1909		2,639,650
Total number of bags on hand June 30, 1909		3,322,700
Bags on hand July 1, 1908	1,889,500	
Manufactured during the year	4,466,500	
	6,356,050	
Bags shipped during the year	2,185,100	
	4,170,900	
Damaged and destroyed by fire and water, March 3, 1909	848,200	
(Not including 209,800 sold at 5 cents.)		3.322.700
Balance due on bags sold prior to July 1, 1908	$17,681 87	
Bags sold at 6½ cents, 66,000	4,290 00	
Bags sold at 5¾ cents, 2,377,900	136,729 26	
Bags sold at 5 cents, 309,800	10,490 00	
Deposits forfeited	482 50	
		$169,673 63
Cash received from balances on bags sold prior to July 1, 1908	$13,354 37	
Cash deposits on bags at 6½ cents	41 00	
Cash balances on bags at 6½ cents	284 00	
Cash payments on bags at 6½ cents	3,965 00	
Cash deposits on bags at 5¾ cents	12,810 79	
Cash balances on bags at 5¾ cents	79,521 72	
Cash payments on bags at 5¾ cents	10,858 88	
Cash payments on bags at 5 cents	10,490 00	
Value of bags annulled at 5¾ cents	143 75	
Value of bags annulled at 6½ cents	4,810 00	
		$136,279 51
Balances due on bag sales, June 30, 1909		$33,394 12

SEGREGATED COST OF MANUFACTURED GOODS, BURLAP, AND BAGS, FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

BURLAP.

Spinning and weaving 4,961,814 yards of burlap at $68,950.88, equals	1.385c.	per yd.
11.20 ounces raw jute at 4.322 cents per lb., equals	2.924c.	per yd.
Loss in manufacture, 3.65 per cent	0.106c.	per yd.
Cost of burlap per yard	4.415c.	per yd.

SEWING.

5 per cent of cost of production	$3,628 99	
69,789 lbs. jute twine at 4.97 cents, equals	3,468 51	
	$7,097 50	
4,466,500 bags sewn, equals	0.106	per bag

BALING.

4½ yards 45-inch burlap, at 4.397 cents, equals	18.787c.	per bale
4.82 ounces jute twine, at 4.970 cents, equals	01.497c.	per bale
3 pounds jute rope, at 4.322 cents, equals	12.966c.	per bale
	33.250	cents
At 500 bags per bale, equals, per bale	0.066	cents

SHIPPING.

Drayage, per bale	05.000	cents
Freight, per bale	50.000	cents
Cost per bale	55.000	cents
At 500 bags per bale, equals, per bag	0.011	cent

COST PER BAG.

39½ inches of 45-inch burlap, at 4.415 cents, equals, per bag	4.842	cents
Cost of sewing, per bag	0.106	cent
Cost of baling, per bag	0.066	cent
Cost of shipping, per bag	0.110	cent
Cost per bag	5.124	cents

COST OF OPERATION AND PRODUCTION OF JUTE MILL DEPARTMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

OPERATION.

Raw jute	$161,169 84	
Insurance on jute and bags	1,556 00	
Jute oil	3,522 54	
Machine oil	582 39	
Fuel oil	8,363 64	
Coal and coke	196 73	
Tools and repair material	7,255 60	
Sizing	2,468 97	
Baling rope	150 12	
Miscellaneous	155 47	
Advertising	159 10	
Salaries	32,503 37	
Board of guards	2,664 90	
Water	810 84	
Freight and cartage	2,946 20	
Electric power	10,800 00	
		$235,305 71

PRODUCTION.

Jute oil	$3,522 54	
Machine oil	582 39	
Fuel oil	8,363 64	
Coal and coke	196 73	
Tools and repair material	7,255 60	
Sizing	2,468 97	
Baling rope	150 12	
Miscellaneous	155 47	
Advertising	159 10	
Salaries	32,503 37	
Board of guards	2,664 90	
Water	810 84	
Freight and cartage	2,946 20	
Electric power	10,800 00	
		$72,579 87
Deduct—		
Expense of sewing bags and repairing sewing machines, estimated at 5 per cent		3,628 99
Equals—		
Net expense of spinning and weaving 4,961,814 yards of burlap		$68,950 88

CASH RECEIPTS AND THE DISPOSAL OF CASH FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

Cash deposits on bags sold at 6½ cents	$41 00	
Cash payments on bags sold at 6½ cents	3,965 00	
Cash balances on bags sold at 6½ cents	12,874 62	
Cash deposits on bags sold at 5¾ cents	12,810 79	
Cash payments on bags sold at 5¾ cents	10,858 88	
Cash balances on bags sold at 5¾ cents	79,521 72	
Cash payments on bags sold at 5 cents (damaged)	10,490 00	
Cash from sale of jute products	927 93	
Total cash receipts		$131,489 94

REVOLVING FUND.

Cash in fund, July 1, 1909	$97,781 54	
Deposited from sales	131,489 94	
		$229,271 48
Cash disbursed in payment for—		
Raw jute	$171,248 27	
Freight on raw jute	3,261 55	
Insurance on raw jute and bags	1,556 00	
		176,065 82
Balance in revolving fund, June 30, 1909		$53,205 66

SALES AND LOSS ON SALES FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

SALES.

66,000	bags sold at 6½ cents		$4,290 00
2,377,900	bags sold at 5¾ cents		136,729 26
2,443,900			$141,019 26
	85,750 bags annulled at 6½ cents	$5,573 75	
	2,500 bags annulled at 5¾ cents	143 75	
88,250			5,717 50
2,355,650	net bag sales		$135,301 76
	Sales of burlap	$145 79	
	Sales of bung cloths	420 12	
	Sales of loom waste	237 87	
	Sales to prison employees	93 15	
	Sales to prison departments	317 33	
			1,214 26
	Net sales for the year		$136,516 02

Loss.

Cost of operation			$235,305 71	
Inventory of June 30, 1908		$99,148 60		
Less value of 1,058,000 bags damaged by fire of March 3, 1909, and taken from stock		57,132 00		
			42,016 60	
				$277,322 31
Net sales for the year			$136,516 02	
Forfeited deposits			482 50	
Inventory of June 30, 1909			135,442 03	
				272,440 55
				$4,881 76
Gain in difference between supplies and material issued to and received from prison departments				1,024 45
Loss on sales for the year				$3,857 31
Loss by fire in warehouse No. 4, March 3, 1909—				
Bags damaged, 1,058,000		$57,132 00		
209,800 sold at 5 cents	$10,490 00			
Inventoried	5,000 00			
		15,490 00		
Loss			$41,642 00	
Jute damaged, 2,080,800 pounds		$89,942 58		
Jute salvaged, 1,755,037 pounds		75,300 99		
Loss, 325,763 pounds			14,641 59	
Miscellaneous expenses			1,066 18	
Storage on bags and jute in San Francisco			1,285 85	
				58.635 62
Total loss for the year				$62,492 93

ASSETS AND LIABILITIES AT THE CLOSE OF THE FISCAL YEAR ENDING JUNE 30, 1909.

AVAILABLE ASSETS:		
Revolving fund	$53,205 66	
Charge sheet	9 75	
Sundry debtors	2 24	
Marin Furniture Company	20 40	
Sundry grain bag debtors	33,394 12	
		$86,632 17
LIABILITIES:		
Commissary department	$1,484 58	
Salaries, officers and guards	2,595 00	
Sundry creditors	199 95	
Marin Water and Power Company	73 45	
Pacific Gas and Electric Company	900 00	
Leale, W. G.	396 00	
Crabb, Wm., & Co.	713 16	
Overland Freight Transfer Company	50 69	
		6.412 83
Excess of available assets		$80,219 34

INVENTORIED ASSETS (STOCK):

Raw jute in warehouse	$90,708 88	
Raw jute in mill	621 11	
Raw jute in process of manufacture	5,246 30	
Merchandise	135,442 03	
Salvaged grain bags	5,000 00	
Office furniture and supplies	230 85	
Jute oil	508 10	
Machine oil	111 86	
Fuel oil	1,209 60	
Tools and repair material	18,968 60	
Sizing	282 55	
Miscellaneous	491 26	
Baling rope	152 00	
		258,973 34
Total excess of assets		$339,192 68

(Assets do not include jute mill plant and fixtures.)

COMPARATIVE STATEMENT OF THE TWO FISCAL YEARS ENDING JUNE 30, 1908, AND JUNE 30, 1909.

Comparison of	1908.	1909.	Increase.	Decrease.
Raw jute	$195,282 74	$161,169 84		$34,112 90
Jute oil	3,635 57	3,522 54		113 03
Machine oil	702 56	582 39		120 17
Fuel oil	4,104 82	8,363 64	$4,258 82	
Coal and coke	258 47	196 73		88 74
Tools and repair material	11,663 83	7,255 60		4,408 23
Sizing	2,650 30	2,468 97		181 33
Baling rope	17 47	150 12	133 65	
Miscellaneous	387 65	155 47		232 18
Advertising	57 85	159 10	101 25	
Salaries of officers and guards	30,839 73	32,503 37	1,663 64	
Board of jute mill guards	1,301 31	2,664 90	1,363 59	
Water	827 46	810 84		16 62
Electric power	10,576 80	10,800 00	223 20	
Freight and cartage	3,693 47	2,946 20		747 27
Insurance on grain bags and raw jute		1,556 00	1,556 00	
Total cost of operation	$266,026 03	$235,305 71		$30,720 32
Cost of production	$70,793 29	$72,579 87	$1,786 58	
Cost of spinning and weaving burlap, per yard	.01362	.01385	.00023	
Cost of sewing, per bag	.00174	.00106		$0.00068
Cost of baling, per bag	.00080	.00066		.00012
Cost of shipping, per bag	.00110	.00110		
Cost of burlap, per yard	.05108	.04415		.00693
Cost of bags, each	.06031	.05124		.00907
Number of bags manufactured	4,446,950	4,466,500	19,500	
Number of bags sold	2,344,100	2,377,900	33,800	
Number of bags shipped	3,261,950	2,185,100		1,076,850
Number of bags on hand June 30	1,889,500	3,322,700	1,433,200	
Pounds of raw jute purchased	5,023,477	4,026,800		996,677
Pounds of raw jute used	3,690,941	3,792,277	101,336	
Pounds of raw jute on hand June 30	2,167,600	2,084,631		82,969
Pounds of raw jute in process of manufacture	129,657	121,386		7,271
Value of raw jute purchased	$237,310 63	$171,248 27		$66,062 36
Value of raw jute on hand	90,280 00	90,708 88	428 88	
Cost of raw jute per hundred pounds (average)	5 23	4 32		91
Percentage of loss in manufacture	.0214%	.0365%	.0151%	

JUTE MILL DEPARTMENT.

FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

SAN QUENTIN, CAL., July 1, 1910.

To HON. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

DEAR SIR: I herewith submit to you the annual report of the jute mill department for the sixty-first fiscal year ending June 30, 1910.

Respectfully,

IRVING T. BALLARD,
Commissary.

STATEMENT OF RAW JUTE AND MANUFACTURED GOODS OF THE JUTE MILL DEPARTMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

RAW JUTE.

2,466 bales jute in warehouse June 30, 1909, at 400 lbs.	986,400 lbs.	
2,780 bales jute rebaled on hand June 30, 1909, at 387 lbs.	1,083,860 lbs.	
33 bales jute in jute mill June 30, 1909, at 387 lbs.	12,771 lbs.	
4 bales jute in jute mill June 30, 1909, at 400 lbs.	1,600 lbs.	
6,567 bales jute received during the year, at 400 lbs.	2,626,800 lbs.	
In process of manufacture July 1, 1909	121,386 lbs.	
		4,832,817 lbs.
2,316 bales jute on hand June 30, 1910	926,400 lbs.	
118 bales jute in mill June 30, 1910	47,200 lbs.	
In process of manufacture July 1, 1910	153,739 lbs.	
		1,127,339 lbs.
Net weight of raw jute used during the year		3,705,478 lbs.

MANUFACTURED GOODS.

4,931,286 yards 45-inch burlap at .71 lb. per yard	3,501,213 lbs.	
2,000 yards 32-inch burlap, at 1 lb. per yard	2,000 lbs.	
Twine used in sewing 4,385,141 bags, ¼-ounce per bag	68,518 lbs.	
Twine used in tieing bundles for 8,770 bales bags	2,056 lbs.	
Twine used in tieing covers for 8,770 bales bags	273 lbs.	
Twine used in sewing covers for 8,770 bales bags	308 lbs.	
Jute rope used in baling 8,770 bales bags	26,310 lbs.	
5-ply twine manufactured	497 lbs.	
3-ply twine manufactured	1,000 lbs.	
Loom waste baled	20,935 lbs.	
Bung clothes manufactured	6,791 lbs.	
		3,629,901 lbs.
Loss in manufacture		75,577 lbs.

Equals 1.56 per cent.

GRAIN BAG STATEMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Bags sold prior to July 1, 1909, awaiting orders for shipment	683,050	
Bags sold during the year at 5¾ cents	38,300	
Bags sold during the year at 5¼ cents	5,445,441	
		6,166,791
Bags shipped during the year	4,893,841	
Bags annulled	18,000	
		4,911,841
Bags sold awaiting orders for shipment		1,254,950
Bags unsold on hand June 30, 1910		1,559,050
Total number of bags on hand June 30, 1910		2,814,000
Bags on hand June 30, 1909	3,322,700	
Bags manufactured during the year	4,385,141	
	7,707,841	
Bags shipped during the year	4,893,841	
		2,814,000

Balance due on bags sold prior to July 1, 1909	$33,394 12	
Bags sold at 5¾ cents, 38,300	2,202 27	
Bags sold at 5¼ cents, 5,445,441	285,885 72	
Deposits forfeited	104 15	
		$321,586 26
Cash received from balances on bags sold prior to July 1, 1909	$32,463 27	
Cash deposits on bags at 5¾ cents	2 02	
Cash balances on bags at 5¾ cents	18 10	
Cash payments on bags at 5¾ cents	2,182 15	
Cash deposits on bags at 5¼ cents	34,399 07	
Cash balances on bags at 5¼ cents	172,292 04	
Cash payments on bags at 5¼ cents	23,377 83	
Value of bags annulled at 5¾ cents	1,035 00	
		$265,769 48
Balance on bag sales June 30, 1910		$55,816 78

COST OF OPERATION AND PRODUCTION OF JUTE MILL DEPARTMENT FOR FISCAL YEAR ENDING JUNE 30, 1910.

OPERATION.

Raw jute	$150,202 51	
Insurance	940 90	
Jute oil	4,025 16	
Machine oil	837 33	
Fuel oil	8,025 17	
Tools and repairs	10,159 49	
Coal and coke	1,402 54	
Sizing	2,339 61	
Baling rope	128 00	
Miscellaneous	405 29	
Advertising	144 30	
Salaries	30,072 69	
Board allowance, officers, and guards	1,110 00	
Freight and cartage	4,942 60	
Water	819 06	
Power	10,723 50	
Board	2,020 00	
Traveling expenses	257 60	
Storage	135 17	
		$228,690 92

PRODUCTION.

Jute oil	$4,025 16	
Machine oil	837 33	
Fuel oil	8,025 17	
Coal and coke	1,402 54	
Tools and repairs	10,159 49	
Sizing	2,339 61	
Baling rope	128 00	
Miscellaneous	405 29	
Advertising	144 30	
Salaries	30,072 69	
Board allowance, officers, and guards	1,110 00	
Freight and cartage	4.942 60	
Water	819 06	
Power	10,723 50	
Board of guards	2,020 00	
Traveling expenses	257 60	
Storage	135 17	
		$77,547 51
Deduct—		
Expense of sewing bags and repairing sewing machines, estimated at 5 per cent		3,877 38
Net expense of spinning and weaving 4,931,386 yards of burlap		$73,670 13

SEGREGATED COST OF MANUFACTURED GOODS, BURLAP, AND BAGS FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

BURLAP.

Spinning and weaving 4,931,386 yards of burlap at $73,630.13 equals	1.494c. per yd.
11.20 ounces raw jute at 3.954 cents per pound, equals	2.766c. per yd.
Loss in manufacture, at 1.56 per cent, equals	0.042c. per yd.
Cost of burlap	4.302c. per yd.

SEWING.

5 per cent of cost of production equals	$3,877 38	
68,518 pounds jute twine, at 4.507 cents, equals	3,088 10	
	$6,965 48	
4,385,141 bags sewn		0.159c. per bag

BALING.

4½ yards 45-inch burlap, at 4.302 cents, equals	19.359c. per bale
4.82 ounces jute twine, at 4.507 cents, equals	01.250c. per bale
3 pounds jute rope, at 3.954 cents, equals	11.862c. per bale
	32.571 cents
At 500 bags per bale	0.065c. per bag

SHIPPING.

Drayage, per bale	05.000 cents
Freight, per bale	50.000 cents
Cost per bale	55.000 cents
At 500 bags per bale, equals	0.110c. per bag

COST PER BAG.

39½ inches burlap, at 4.302 cents, equals, per bag	4.700 cents
Cost of sewing, per bag	0.159 cent
Cost of baling, per bag	0.065 cent
Cost of shipping, per bag	0.110 cent
Cost per bag	5.034 cents

SALES AND PROFIT ON SALES FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

SALES.

38,300 bags sold at 5¾ cents		$2,202 27
5,445,441 bags sold at 5¼ cents		285,885 72
5,483,741		$288,087 99
18,000 bags annulled at 5¾ cents		1,035 00
5,465,741 net sales for year		$287,052 99
Sales of burlap	$301 14	
Sales of bung cloths	638 60	
Sales of loom waste	221 60	
Sales of 3-ply twine	195 57	
Sales to prison employees	162 18	
Sales to prison departments	63 40	
		1,582 49
Net sales during the year		$288,635 48

PROFIT ON SALES.

Net sales for the year	$288,635 48	
Forfeited deposits	104 15	
Inventory of June 30, 1910	78,595 33	
		$367,334 96
Net cost of operation	$228,690 92	
Inventory of June 30, 1909	135,442 03	
		364,132 95
		$3,202 01
Gain in difference between material and supplies issued to and received from prison departments		1,519 81
Profit on sales during the year		$4,721 82

MISCELLANEOUS.

Raw jute not inventoried through error June 30, 1909	$2,800 98	
Excess of inventory value of salvage bags	1,795 51	
Sale of old barrels, etc.	115 00	
		4,711 49
Total profit for the year		$9,433 31

CASH RECEIPTS AND THE DISPOSAL OF CASH FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Cash deposits on bags sold at 5¾ cents	$2 02	
Cash payments on bags sold at 5¾ cents	2,182 15	
Cash balances on bags sold at 5¾ cents	32,481 37	
Cash deposits on bags sold at 5¼ cents	34,399 07	
Cash balances on bags sold at 5¼ cents	172,292 04	
Cash payments on bags sold at 5¼ cents	23,377 83	
Cash on sale of salvage bags	6,795 51	
Cash on merchandise before June 30, 1909	2 24	
Cash on sale of old barrels	115 00	
Cash on sale of jute products	1,521 89	
Cash on returned premium on canceled insurance	400 70	
		$273,569 82

REVOLVING FUND.

Cash in fund July 1, 1909	$53,205 66	
Deposits from sales	273,569 82	
		$326,775 48

Cash disbursed in payment for—		
Raw jute	$71,609 25	
Freight on raw jute	1,527 60	
Insurance on raw jute	1,341 60	
Refund to jute customer	1 00	
To State Treasurer	52,296 03	
		$126,775 48
Balance in revolving fund June 30, 1910		$200,000 00

ASSETS AND LIABILITIES AT THE CLOSE OF THE FISCAL YEAR ENDING JUNE 30, 1910.

Available Assets:		
Revolving fund	$200,000 00	
Charge sheet	3 55	
Sundry debtors	3 05	
Marin Furniture Company	19 50	
Sundry bag debtors	55,816 78	
		$255,842 88
Liabilities:		
Commissary department	$1,794 32	
Salaries, officers and guards	2,391 16	
Allowance for board, officers and guards	190 00	
Sundry creditors	9 00	
W. G. Leale	2,867 60	
Overland Freight Transfer Company	21 93	
Marin Water and Power Company	75 05	
Pacific Gas and Electric Company	900 00	
William Crabb & Co.	240 60	
Balfour, Guthrie & Co.	13,613 25	
H. M. Newhall & Co.	4,258 68	
		26,361 59
Excess of available assets		$229,481 29
Inventoried Assets (Stock):		
Raw jute in warehouse	$32,707 42	
Raw jute in mill	1,693 06	
Raw jute in process of manufacture	6,176 36	
Merchandise	78,595 33	
Office furniture	230 85	
Jute oil	282 11	
Machine oil	23 63	
Fuel oil	32 01	
Tools and repairs	18,766 56	
Sizing	499 13	
Miscellaneous	384 73	
Baling rope	24 00	
		139,415 19
Total excess of assets		$368,896 48

COMPARATIVE STATEMENT OF THE TWO FISCAL YEARS ENDING JUNE 30, 1909, AND JUNE 30, 1910.

Comparison of—	1909.	1910.	Increase.	Decrease.
Raw jute	$161,169 84	$151,132 57		$10,037 27
Insurance on bags and raw jute	1,556 00	940 90		615 10
Jute oil	3,522 54	4,025 16	$502 62	
Machine oil	582 39	837 33	254 94	
Fuel oil	8,363 64	8,025 17		338 47
Tools and repairs of materirl	7,255 60	10,159 49	2,903 89	
Coal and coke	196 73	1,402 54	1,205 81	
Sizing	2,468 37	2,339 61		129 36
Baling rope	150 12	128 00		22 12
Miscellaneous	155 47	405 29	249 82	
Advertising	159 10	144 30		14 80
Salaries of officers and guards	32,503 37	30,072 69		2,430 68
Board allowance of officers and guards		1,110 00	1,110 00	
Freight and cartage	2,946 20	4,942 60	1,996 40	
Water	810 84	819 06	8 22	
Power	10,800 00	10,723 50		76 50
Board of jute mill guards	2,664 90	2,020 00		64 90
Traveling expenses		257 60	257 60	
Storage		135 17	135 17	
Total cost of operation	$235,305 71	$229,620 98		$5,684 73
Cost of production	$72,579 87	$77,547 54	$4,967 62	
Cost of spinning and weaving burlap, per yard	.01385	.01494	.00109	
Cost of sewing, per bag	.00106	.00159	.00053	
Cost of baling, per bag	.00066	.00065		$0.00001
Cost of shipping, per bag	.00110	.00110		
Cost of burlap, per yard	.04415	.04302		.00113
Cost of bags, each	.05124	.05034		.00090
Number of bags manufactured	4,466,500	4,385,141		81,359
Number of bags sold	2,377,900	5,465,741	3,087,841	
Number of bags shipped	2,185,000	4,893,841	2,708,741	
Number of bags on hand June 30	3,322,700	2,814,000		508,700
Pounds of raw jute purchased	4,026,800	2,626,000		1,400,800
Pounds of raw jute used	3,792,377	4,748,000	955,623	
Pounds of raw jute on hand	2,084,631	926,400		1,158,231
Pounds of raw jute in process of manufacture	121,386	153,739	32,353	
Value of raw jute purchased	$171,248 27	$91,402 08		$79,846 19
Value of raw jute on hand	90,708 88	32,707 42		58,001 46
Cost of raw jute per hundred pounds (average)	4 32	3 54		78
Percentage of loss in manufacture	.0365%	.0156%		.0209

TURNKEY'S REPORT.

FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

SAN QUENTIN, CAL., June 30, 1909.

To HON. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

DEAR SIR: I beg to submit herewith my annual report for the fiscal year ending June 30, 1909.

Very respectfully,

D. SULLIVAN,
Turnkey.

TABLE

Prison Account

Prisoners on hand July 1st.	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
Received.										
Per commitment	488	415	410	424	433	400	415	448	513	380
Per commitment, United States Prisoners	11	4	5	11	7	4	9	5	10	12
Transferred from Folsom	----	----	----	3	3	4	157	----	50	----
Returned witness	8	20	11	5	13	6	11	6	8	10
Returned from insane asylum	1	----	1	----	2	2	2	2	1	----
Returned by order of court	----	----	----	----	----	----	1	15	8	3
Returned resentenced	----	----	----	----	----	----	----	----	----	----
Returned escapes	1	----	3	2	----	1	1	3	4	8
Returned on writ habeas corpus	----	----	3	----	----	----	----	----	----	----
Returned violation parole	----	----	----	----	----	----	----	----	----	----
Returned new charge	1	----	2	1	1	----	1	----	2	----
Returned from trial new charge	----	1	2	----	----	----	----	----	----	----
Returned noncompliance of pardon	----	----	----	1	1	1	----	----	----	----
Returned pardon revoked	----	----	----	----	----	----	----	1	----	----
Returned Ione Reform School	----	----	----	----	----	----	----	----	----	----
Total received	510	440	437	447	460	418	597	480	596	413
Total prisoners on hand July 1st	1220	1205	1186	1155	1212	1247	1220	1377	1373	1392
Discharged										
Per act, restored	232	232	196	190	239	236	194	43	231	438
Per act	171	132	137	96	99	94	147	339	198	----
Per United States Commissioner	----	2	1	1	----	9	5	3	7	----
Per order of Secretary of Navy	----	----	----	----	----	----	----	----	----	----
Pardon by President	2	----	1	1	2	1	1	1	----	3
Pardon by Governor	20	45	32	52	27	33	18	18	25	38
Commuted by Governor	----	----	1	----	----	7	----	----	----	7
Paroled	----	----	----	----	----	----	----	----	----	----
Transferred to Folsom	60	----	50	2	4	1	7	11	51	1
Transferred to insane asylum	5	----	3	11	3	19	7	4	1	----
Transferred to Yuma penitentiary	----	----	----	----	----	----	----	----	----	----
Transferred to Whittier school	----	----	----	----	----	----	----	----	----	----
Transferred to Preston school	----	----	----	----	----	----	----	----	----	----
Transferred to Mare Island	----	----	----	----	----	----	----	----	----	----
On writ of habeas corpus	----	----	3	----	1	----	2	17	7	2
On writ of probable cause	1	----	1	4	----	2	2	----	3	----
By order of court	2	1	1	1	2	----	----	3	1	2
Out as witness	8	22	11	5	13	7	11	6	8	10
Out for new trial	8	7	8	8	2	2	10	3	4	----
Out on additional charge	2	4	5	1	1	1	1	----	3	----
Out, resentence	----	----	----	----	----	----	----	----	----	----
Escaped	1	1	4	3	3	2	3	6	6	6
Killed	----	----	----	----	----	----	----	----	----	1
Suicide	2	----	----	----	1	1	----	2	1	1
Died	12	13	14	15	28	30	32	31	31	24
Executed	----	----	----	----	----	----	----	----	----	----
Reparoled	----	----	----	----	----	----	----	----	----	----
Total discharged	526	459	468	390	425	445	440	484	577	533

No. 1.

July 1, 1881, to June 30, 1909.

1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Totals.
392	421	512	374	376	491	412	439	350	400	564	503	454	505	442	499	674	692	----	12,826
28	23	41	23	40	21	41	16	27	18	36	35	30	12	20	18	35	21	----	563
----	----	6	2	24	----	----	----	----	----	----	1	6	----	50	----	1	----	----	307
6	21	15	10	3	18	12	11	8	8	3	7	8	3	1	5	9	20	----	266
2	3	1	1	8	4	----	----	1	----	1	5	----	1	1	----	1	----	----	40
3	4	1	----	----	1	----	----	----	4	----	----	1	4	9	5	1	1	----	61
----	----	----	7	----	6	6	5	1	----	3	1	5	----	1	4	5	1	----	45
1	----	----	1	2	----	----	----	----	----	----	----	1	1	----	----	----	----	----	29
----	----	----	1	2	1	1	2	----	----	1	----	2	----	----	----	----	----	----	13
----	----	----	1	1	----	1	----	1	----	----	1	----	3	4	1	9	12	----	34
----	3	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	12
----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	1	----	----	5
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3
----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	2
----	----	----	1	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	2
432	475	576	421	457	542	473	473	389	430	608	553	509	529	528	532	736	747	----	14,208
1272	1233	1258	1351	1287	1300	1358	1350	1324	1309	1312	1476	1529	1476	1558	1588	1549	1702	1814	
385	244	256	276	257	272	282	190	44	49	71	70	109	39	74	225	223	231	----	5,528
----	113	117	97	109	104	100	203	307	318	279	334	343	329	331	206	193	196	----	5,092
9	5	1	----	7	8	2	2	----	----	----	----	----	----	----	----	----	----	----	62
----	----	----	----	----	----	----	----	----	----	17	2	2	----	5	4	----	----	----	30
4	1	2	1	----	5	5	1	----	----	1	----	----	----	2	1	1	1	----	37
5	5	7	6	3	2	1	3	----	1	1	11	----	----	1	1	5	4	----	364
11	21	15	25	5	7	8	17	----	----	----	----	3	2	6	15	13	12	----	175
----	----	5	7	12	15	16	15	1	7	16	24	40	29	38	57	92	129	----	503
3	3	4	1	3	6	----	----	----	1	----	----	1	3	----	3	1	----	----	216
8	8	7	12	7	7	2	1	7	4	13	8	6	8	----	6	5	3	----	162
----	----	----	----	----	1	1	2	----	----	----	----	1	----	----	----	----	----	----	5
1	----	----	----	----	----	----	2	----	----	----	----	----	----	----	1	----	----	----	4
----	----	7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3	----	10
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	3	----	4
4	6	1	7	1	2	1	3	----	----	5	4	5	1	3	----	----	----	----	75
----	----	----	2	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	16
13	4	2	4	1	2	2	4	4	15	----	----	1	2	7	2	----	----	----	76
6	21	17	8	3	19	12	11	8	8	3	7	8	3	4	3	10	20	----	272
----	----	4	6	5	2	6	6	5	4	5	12	2	2	2	----	5	6	----	124
----	----	----	----	----	----	----	----	----	----	----	----	5	3	3	7	3	1	----	40
----	----	1	5	----	7	5	5	1	----	4	1	5	1	3	3	5	1	----	47
----	----	----	----	1	----	1	1	----	----	----	----	1	3	----	----	----	----	----	42
1	1	----	----	----	----	----	----	----	----	1	----	----	----	----	2	----	----	----	6
2	----	----	1	1	----	1	----	1	2	----	2	----	1	1	----	1	----	----	21
19	17	35	24	26	22	31	29	23	15	26	22	25	16	14	30	23	18	----	645
----	1	2	3	3	3	5	4	3	2	2	3	5	5	4	4	2	6	----	57
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	1
471	450	483	485	444	484	481	499	404	426	444	500	562	447	498	571	583	635	----	13,614

TABLE No. 2.

Summary of Receipts and Discharges from July 1, 1908, to June 30, 1909.

Month.	Received per committment	Returned witness	Returned by order of court	Returned, resentenced	Returned for violating parole	Returned on additional charge	Total received	Discharged per act and restored	Discharged per act	Paroled	Died	Executed	Suicide	Transferred to insane asylum	Out as witness	Out for new trial	Out for resentence	Out on additional charge	Commuted by governor	Pardoned by governor	Commuted by President Roosevelt	Transferred to Mare Island	Transferred to Preston School	Reparoled, found not guilty vio. parole	Total discharges	U. S prisoners on hand end each month	On hand at end of month
1908—July	58	1			1		60	17	15	24	3	2							1						62	59	1,699
August	36				3		39	31	19	3	1	1			1				2						58	61	1,681
September	51	1			1		53	11	8	16	1	1			1				1			1			40	63	1,694
October	53	2					55	26	24	9				1	2				6	1			2	1	72	64	1,677
November	54	1			1		56	16	12	3					1					1					33	65	1,700
December	69	2	1				72	22	8	18	2				2	1		1							54	65	1,718
1909—January	76	3		1	2		82	9	21	8	1	2			3	3	1								48	63	1,752
February	62	1			2		65	28	15	4	2			1	3						1				54	63	1,763
March	68	4					72	20	16	12	3			1	2	2						2			58	63	1,777
April	60	1					61	13	19	8	3				3										46	61	1,792
May	63	2			2		67	17	25	10	1				1					1					55	59	1,804
June	63	2					65	21	14	14	1				1				2	1			1		55	59	1,814
Totals	713	20	1	1	12		747	231	196	129	18	6		3	20	6	1	1	12	4	1	3	3	1	635		

Prisoners on hand June 30, 1908	1,702
Prisoners received during the fiscal year	747
Total	2,449
Prisoners discharged during the year	635
Prisoners on hand June 30, 1909	1,814
Increase over June 30, 1908	112
Monthly average	$1,732\frac{7}{15}$
Daily average	$1,730\frac{172}{365}$

TABLE No. 3.

Nativity of Prisoners.

Foreign born.	Totals.	Born in United States.	Totals.
Africa	1	Alabama	10
At sea	1	Arizona	9
Australia	8	Arkansas	12
Austria	24	California	405
Azores	1	Colorado	13
Bohemia	3	Connecticut	10
Central America	1	District of Columbia	2
Canada	34	Delaware	1
China	33	Florida	1
Cuba	4	Georgia	8
Denmark	5	Hawaii	1
England	30	Illinois	91
Finland	4	Indiana	30
France	9	Iowa	49
Germany	57	Idaho	4
Greece	5	Kansas	19
Holland	1	Kentucky	43
Ireland	34	Louisiana	11
Italy	60	Maine	9
Japan	15	Maryland	12
Mexico	87	Massachusetts	40
New Zealand	1	Michigan	31
Nova Scotia	1	Minnesota	14
Norway	11	Mississippi	1
Portugal	6	Missouri	50
Russia	7	Montana	6
Scotland	11	Nebraska	18
Spain	2	Nevada	12
Sweden	8	New Hampshire	2
Switzerland	11	New Jersey	9
Turkey	2	New York	113
Wales	2	New Mexico	1
West Indies	2	North Carolina	5
		North Dakota	1
		Ohio	49
		Oklahoma	5
		Oregon	22
		Pennsylvania	61
		Philippine Islands	1
		Porto Rico	3
		Rhode Island	12
		South Dakota	1
		South Carolina	2
		Tennessee	30
		Texas	39
		Utah	4
		Vermont	2
		Virginia	23
		Washington	7
		West Virginia	3
		Wisconsin	24
		Wyoming	2
Total foreign born	481	Total native born	1,333

RECAPITULATION.

Foreign born, 26½%	481	Brown	2
United States, 73½%	1,333	Chinese	45
		Indians	31
Total	1,814	Japanese	14
		Negroes	102
Males	1,786	Whites	1,620
Females	28		
Total	1,814	Total	1,814

TABLE No. 4.

Classification of Crimes.

Crime.	Totals.
Arson, first degree	7
Arson	6
Arson, second degree	12
Arson, second degree, attempt	1
Assault deadly weapon	29
Bigamy	8
Receiving a bribe	1
Burglary	84
Burglary, attempt	1
Burglary and injuring public jail	5
Burglary and priors	6
Burglary, first degree	197
Burglary, second degree	150
Burglary, first and second degrees	2
Burglary, first degree, and prior	28
Burglary, second degree, and prior	22
Burglary, first degree, attempt	4
Burglary, second degree, attempt	3
Burglary, second degree, attempt and prior	3
Burglary and grand larceny	1
Child stealing	2
Counterfeiting	10
Crime against nature	5
Crime against nature, attempt	7
Desertion	1
Embezzlement	35
Extortion	1
Extortion, attempt	2
Felony	75
Felony and prior	4
Forgery	119
Forgery and prior	5
Grand larceny	201
Grand larceny, and assault with deadly weapon	......
Grand larceny and prior	21
Grand larceny, attempt	3
Incest	5
Injuring public jail	8
Infamous felony	19
Kidnaping	1
Manslaughter	62
Manslaughter and murder, second degree	2
Manslaughter, voluntary	1
Manslaughter, involuntary	1
Mayhem	4
Murder	7
Murder, first degree	124
Murder, second degree	83
Murder, second degree, and robbery	1
Murder, assault to	50
Murder, assault to, and prior	4
Murder, assault to, and burglary	2
Obtaining money under false pretenses	9
Obtaining property under false pretenses	2
Passing fictitious check	54
Passing fictitious check, attempt	2
Perjury	7
Perjury and prior	1
Petty larceny and prior	22
Rape	52
Rape, assault to	27
Rape, assault to, and prior	2
Robbery	149
Robbery and prior	14
Robbery, assault to commit	18
Robbery, assault to, and prior	6
Robbery and assault to murder	1
Robbery, attempt	5
Seduction	....
Receiving stolen goods	3
Sodomy	11
Sodomy, attempt	3
Total	1,814

Recapitulation.

Crimes against property	1,185
Crimes against person	483
Crimes against both	4
Crimes infamous	50
Unclassified	92
Total	1,814

TABLE No. 5.

Terms of Imprisonment.

Term.	No.	Term.	No.
Six months	1	Fourteen years	37
One year	89	Fifteen years	68
One year and two months	3	Sixteen years	7
One year and three months	10	Sixteen years and six months	1
One year and six months	67	Seventeen years	3
One year and eight months	----	Eighteen years	8
One year and nine months	1	Nineteen years	----
One year, eleven months, fourteen days	1	Twenty years	50
Two years	170	Twenty-one years	6
Two years and six months	18	Twenty-two years	1
Three years	186	Twenty-four years	2
Three years and five months	4	Twenty-five years	36
Three years and six months	7	Twenty-six years	5
Four years	95	Twenty-seven years	1
Four years and six months	1	Twenty-eight years	3
Four years and nine months	1	Twenty-nine years	1
Five years	244	Thirty years	11
Five years, three and one-half months	----	Thirty-one years	3
Five years and six months	2	Thirty-two years	1
Six years	69	Thirty-five years	3
Six years and two months	1	Thirty-nine years	1
Six years and six months	1	Forty years	9
Seven years	68	Forty-five years	2
Seven years and six months	3	Fifty years	7
Eight years	63	Sixty years	1
Nine years	17	Sixty-six years	1
Ten years	198	Ninety years	1
Eleven years	7	Ninety-nine years	1
Twelve years	27	Life	177
Thirteen years	5	Death	7
Thirteen years and six months	1	Total	1,814

Average term of sentence $7\frac{5}{6}$ years.

Previous Terms.

Recidivists San Quentin and Folsom.	
Second term	229
Third term	66
Fourth term	25
Fifth term	6
Sixth term	4
Seventh term	2
Tenth term	1
Total	327

Reformatory Schools.	
Whittier, California	17
Preston, California	8
Colorado Reformatory	1
Illinois Reformatory	2
Indiana Reformatory	1
Kansas Reformatory	1
Ohio Reformatory	1
Total	31

State Prisons.	
Arizona	3
Colorado	1
Georgia	1
Illinois	2
Iowa	1
Kansas	1
Maryland	2
Minnesota	2
Mississippi	1
Missouri	2
Montana	2
Nebraska	1
New Jersey	1
New Mexico	1
New York	2
Nevada	4
Ohio	1
Oregon	7
Pennsylvania	2
Tennessee	1
Texas	1
Utah	1
Washington	8
Wisconsin	2
Wyoming	4
Total	55

Federal prisons, 10; house of correction, 9; county jails, 116.

TABLE No. 6.

Age of Prisoners When Received.

Age.	Total.	Age.	Total.
Fourteen	1	Forty	40
Fifteen	1	Forty-one	26
Sixteen	12	Forty-two	32
Seventeen	24	Forty-three	20
Eighteen	43	Forty-four	14
Nineteen	64	Forty-five	20
Twenty	55	Forty-six	19
Twenty-one	64	Forty-seven	13
Twenty-two	90	Forty-eight	14
Twenty-three	91	Forty-nine	7
Twenty-four	90	Fifty	20
Twenty-five	69	Fifty-one	10
Twenty-six	90	Fifty-two	14
Twenty-seven	81	Fifty-three	7
Twenty-eight	101	Fifty-four	10
Twenty-nine	65	Fifty-five	10
Thirty	70	Fifty-six	8
Thirty-one	72	Fifty-seven	11
Thirty-two	56	Fifty-eight	13
Thirty-three	52	Fifty-nine	4
Thirty-four	41	Sixty	11
Thirty-five	56	Sixty-one	7
Thirty-six	46	Sixty-two	6
Thirty-seven	33	Sixty-three	4
Thirty-eight	41	Sixty-four	4
Thirty-nine	33	Sixty-five	7
		Sixty-six	3
		Sixty-seven	1
		Sixty-eight	4
		Sixty-nine	1
		Seventy	2
		Seventy-one	2
		Seventy-two	3
		Seventy-three	3
		Seventy-four	2
		Seventy-six	1
		Total	1,814

Age of youngest prisoner now here, 16 years; of eldest, 82 years.

Educational Status.

Can read and write	1,651
Can not read or write	163
Total	1,814

TABLE No. 7.

Counties Represented.

Counties.	No.	Counties.	No.
Alameda	137	Placer	33
Alpine	0	Plumas	7
Amador	14	Riverside	19
Butte	46	Sacramento	53
Calaveras	5	San Benito	9
Colusa	17	San Bernadino	48
Contra Costa	25	San Diego	64
Del Norte	4	San Francisco	330
El Dorado	3	San Joaquin	63
Fresno	67	San Luis Obispo	17
Glenn	6	San Mateo	11
Humboldt	14	Santa Barbara	20
Imperial	5	Santa Clara	32
Inyo	10	Santa Cruz	22
Kern	71	Shasta	26
Kings	20	Sierra	3
Lake	1	Siskiyou	19
Lassen	3	Solano	31
Los Angeles	210	Sonoma	34
Madera	9	Stanislaus	18
Marin	9	Sutter	4
Mariposa	5	Tehama	11
Mendocino	22	Trinitty	1
Merced	18	Tulare	28
Modoc	3	Tuolumne	4
Mono	2	Ventura	18
Monterey	30	Yolo	14
Napa	14	Yuba	23
Nevada	5		
Orange	18	Total	1,755

United States Prisoners.

United States Districts.	No.	Naval Prisoners.	No.
Northern California	28	Mare Island	5
Southern California	6	China	0
Alaska	3	United States ships	12
Arizona	1	Philippine Islands	1
Idaho	2	Total	18
China	1	Total United States districts	41
		Total United States prisoners	59
		Total State prisoners	1,755
Total	41	Total	1,814

TABLE No. 8.

Occupations of Prisoners Before Commitment.

Occupation.	No.	Occupation.	No.	Occupation.	No.
Accountant	8	Embalmer	1	Photographer	5
Actor	8	Editor	2	Physician	5
Amalgamator	2	Farmer	55	Plumber	28
Architect	1	Fireman	34	Porter	7
Artist	2	Fisherman	2	Preacher	2
Baker	17	Florist	1	Printer	18
Barber	47	Glazier	1	Pugilist	2
Bartender	18	Gardener	20	Plasterer	5
Bellboy	1	Gasfitter	2	Policeman	1
Banker	2	Glassbeveler	1	Potter	1
Blacksmith	30	Glassblower	2	Railroadman	18
Boilermaker	7	Harnessmaker	6	Reporter	1
Bookkeeper	25	Horseshoer	2	Restaurateur	1
Bootblack	2	Hostler	22	Sawyer	1
Brewer	2	Hotelkeeper	11	Saddler	1
Broommaker	1	Housekeeper	10	Sailor	32
Bricklayer	4	Insurance agent	2	Salesman	13
Butcher	24	Ironmolder	7	Shingler	4
Bookbinder	2	Jeweler	2	School-teacher	3
Cabinetmaker	2	Laborer	421	Shoemaker	27
Carpenter	79	Lather	1	Shopgirl	2
Carriage painter	1	Laundryman	17	Signpainter	7
Cement worker	4	Lithographer	1	Solicitor	5
Chiropodist	2	Longshoreman	1	Steamfitter	8
Clerk	50	Lawyer	2	Steward	7
Confectioner	3	Lighthousekeeper	1	Steeplejack	1
Contractor	2	Machinist	37	Stenographer	3
Cook	113	Molder	4	Stonecutter	4
Cowboy	5	Marine	1	Stonemason	4
Chauffeur	3	Mechanic	1	Stock dealer	2
Dairymen	3	Master mechanic	1	Student	6
Dishwasher	1	Merchant	11	Surveyor	1
Draughtsman	1	Messenger	2	Tailor	35
Dressmaker	2	Miner	60	Tanner	2
Driller	1	Millwright	5	Teamster	96
Druggist	3	Musician	8	Telegrapher	3
Dyer	1	Nurse	9	Tinsmith	8
Electrician	27	Nurseryman	1	Upholsterer	5
Engineer, mechanical	22	Oiler	1	Veterinary surgeon	2
Engineer, civil	4	Oildriller	1	Waiter	71
Engineer, mining	2	Painter	50	Watchmaker	1
Engineer, electrical	3	Paperhanger	5		
Engraver	1	Peddler	4	Total	1,814

Recapitulation.

Professions	42
Mechanical trades	376
Other trades and occupations	975
Laborers	421
Total	1,814

TABLE No. 9.

Life Prisoners.

Crime.	No.	Actual time served by life prisoners now here.	No.
Assault to murder and two priors	1	Thirty-three years	1
Burglary, first degree, and prior	1	Twenty-seven years	4
Felony	4	Twenty-six years	1
Murder	6	Twenty-five years	1
Murder, first degree	122	Twenty-two years	2
Murder, second degree	21	Twenty years	1
Murder, second degree, and robbery	1	Nineteen years	2
Rape	6	Eighteen years	2
Robbery	12	Seventeen years	2
Robbery and priors	3	Sixteen years	2
		Fifteen years	6
Total	177	Fourteen years	6
Recidivists.		Thirteen years	6
		Twelve years	9
Second term	16	Eleven years	6
Third term	5	Ten years	5
Fourth term	3	Nine years	9
Fifth term	2	Eight years	9
Serving first term	151	Six years or less	103
Total	177	Total	177
Classification.			
Chinese	16		
Indians	2		
Negroes	10		
Whites (male)	145		
Whites (female)	4		
Total	177	*Life Prisoners on Parole.*	
		Whites	30
State prisoners	174	Chinese	9
United States prisoners	3	Negroes	1
Total	177	Total	40

TABLE No. 10.

Paroled Prisoners.

TABLE "A"—ACCOUNTING FOR THE WHOLE NUMBER PAROLED SINCE THE LAW WAS PASSED (1893).

Total paroles granted since 1893	------	503
Discharged while on parole	248	
Died while on parole	9	
Sentence commuted and discharged while on parole	11	
Pardoned while on parole	22	
Suicide while on parole	1	
Parole violated, not yet apprehended	12	
Parole violated and returned to prison	34	
Parole violated and returned to prison on new charge	4	
Now on parole and reporting regularly	160	
Paroled and deported (Chinese)	2	
Totals	503	503

Paroles honored, 453, or $90\frac{1}{10}$ per cent.
Paroles violated, 50, or $9\frac{9}{10}$ per cent.
Average number paroled each year, 31.

TABLE "B"—SHOWING OPERATIONS DURING THE SIXTIETH FISCAL YEAR.

On parole and reporting July 1, 1908	122	
On parole and not reporting (violators) July 1, 1908	8	
Paroled during the year	129	
Paroled and deported		2
Discharged during the year		56
Died		2
Pardoned		14
Returned for violation of parole		12
Violators not yet apprehended		12
Now on parole and reporting regularly		160
Returned on new charge		1
Totals	259	259

TABLE No. 11.

Relating to those confined June 30, 1909.

RELIGION.

Roman Catholics	765
Protestants	774
Oriental religions	42
Hebrews	26
Miscellaneous	8
No religion	199
Total	1,814

SOCIAL STATUS.

Married	331
Single	979
Widowers	89
Widows	5
Divorced	60
Not stated	350
Total	1,814

HABITS.

Addicted to liquor, tobacco and opiates	42
Addicted to liquor and tobacco	997
Addicted to liquor	15
Addicted to tobacco	361
No habits	59
Habits not stated	340
Total	1,814

TABLE No. 12.

Photographs of Prisoners.

	1908.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Regular monthly reports to sheriffs, chiefs of police, etc.	1,798	1,116	1,581	1,643	1,674	2,139
To sheriffs, chiefs of police, etc., by special request	90	125	82	100	26	105
Recidivists about to be discharged, to sheriffs, etc.			1,760			1,430
Parole violators		850	750			
Escapes	500					
Extra			25		200	20
Totals	2,388	2,091	4,198	1,743	1,900	3,694

	1909.					
	Jan.	Feb.	Mar.	April.	May.	June.
Regular monthly reports to sheriffs, chiefs of police, etc.	2,356	1,922	2,108	1,860	1,953	1,953
To sheriffs, chiefs of police, etc., by special request	105	18	56	96	38	45
Recidivists about to be discharged, to sheriffs, etc.			1,210			1,155
Parole violators		250		750		
Extra	13	26		2,000	2,500	13
Totals	2,474	2,216	3,374	4,706	4,491	3,166

Total photographs made and distributed during fiscal year	36,441
Maintenance of photograph gallery for fiscal year	$510.17
Average cost of each photograph	.014

TABLE No. 13.

Statement of average terms served by prisoners discharged during the sixtieth fiscal year.

Expiration of sentence 427

427 prisoners served 11,956 months, an average of 28 months, or 2 years and 4 months each.

Paroled 129

115 term prisoners served 5,284 months, an average of 45 months and 29 days, or 3 years 9 months and 29 days each.

14 life prisoners served 2,427 months, an average of 173 months and 13 days, or 14 years 5 months and 13 days each.

129 prisoners served 7,711 months, an average of 59 months and 23 days, or 4 years 11 months and 23 days each.

Pardoned 4

3 term prisoners served 64 months, an average of 21 months and 10 days, or 1 year 9 months and 10 days each.

1 life prisoner served 310 months, an average of 310 months, or 25 years and 10 months each.

4 prisoners served 374 months, an average of 93 months and 15 days, or 7 years 9 months and 15 days each.

Commuted 13

11 term prisoners served 1,018 months, an average of 92 months and 16 days, or 7 years 8 months and 16 days each.

2 life prisoners served 705 months, an average of 352 months and 15 days, or 29 years 4 months and 15 days each.

13 prisoners served 1,723 months, an average of 132 months and 16 days, or 11 years and 16 days each.

Died 18

12 term prisoners served 395 months, an average of 32 months and 27 days, or 2 years 8 months and 27 days each.

5 life prisoners served 555 months, an average of 111 months, or 9 years and 3 months each.

1 death penalty prisoner served 12 months.

18 prisoners served 962 months, an average of 53 months and 13 days, or 4 years 5 months and 13 days each.

Transferred 9

9 prisoners served 378 months, an average of 42 months, or 3 years and 6 months each.

Discharged, but not included in this average 33

6 executed, 1 resentenced, 19 out as witness, 1 out for additional charge, and 6 for new trial.

Total discharged 633

Not to be included in average 33

Basis for average 600

Totals.

Term prisoners—

577 discharged prisoners served 19,095 months, an average of 33 months and 5 days, or 2 years 9 months and 5 days each.

Life prisoners—

22 life prisoners served 3,997 months, an average of 181 months and 20 days, or 15 years 1 month and 20 days each.

Death penalty—

1 prisoner under sentence of death, died after having served 12 months, or 1 year.

Grand total—

600 prisoners discharged during the sixtieth fiscal year served 23,104 months, an average of 38 months and 15 days, or 3 years 2 months and 15 days each.

REPORT OF THE TURNKEY.

FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

San Quentin, Cal., June 30, 1910.

To Hon. John E. Hoyle, *Warden of State Prison at San Quentin, Cal.*

Dear Sir: I beg to submit herewith my annual report for the fiscal year ending June 30, 1910.

Very respectfully,

D. SULLIVAN,
Turnkey.

TABLE

Prison Account, July

Prisoners on hand July 1.	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891
Received.											
Per commitment	488	415	410	424	433	400	415	448	513	380	392
Per commitment United States prisoners	11	4	5	11	7	4	9	5	10	12	28
Transferred from Folsom				3	3	4	157		50		
Returned witness	8	20	11	5	13	6	11	6	8	10	6
Returned from insane asylum	1		1		2	2	2	2	1		2
Returned by order of court							1	15	8	3	3
Returned, resentenced											
Returned, escapes	1		3	2		1	1	3	4	8	1
Returned on writ of habeas corpus			3								
Returned for violating parole											
Returned on new charge	1		2	1	1		1		2		
Returned from trial, new charge		1	2								
Returned for noncompliance to pardon				1	1	1					
Returned, pardon revoked								1			
Returned from Preston School											
Totals received	510	440	437	447	460	418	597	480	596	413	432
Totals on hand July 1	1220	1205	1186	1155	1212	1247	1220	1377	1373	1392	1272
Discharged.											
Per Goodwin act and restored	232	232	196	190	239	236	194	43	231	438	385
Per Goodwin act	171	132	137	96	99	94	147	339	198		
Per order United States Commissioner		2	1	1		9	5	3	7		9
Per order of Secretary of Navy											
Pardoned by the President	2		1	1	2	1	1	1		3	4
Pardoned by Governor	20	45	32	52	27	33	18	18	25	38	5
Commuted by Governor			1			7				7	11
Paroled											
Transferred to Folsom	60		50	2	4	1	7	11	51	1	3
Transferred to insane asylum	5		3	11	3	19	7	1	1		8
Transferred to Yuma Penitentiary											
Transferred to Whittier School											1
Transferred to Preston School											
Transferred to Mare Island											
On writ of habeas corpus			3		1		2	17	7	2	4
On writ of probable cause	1		1	4		2	2		3		
By order of court	2	1	1	1	2			3	1	2	13
Out as witness	8	22	11	5	13	7	11	6	8	10	6
Out for new trial	8	7	8	8	2	2	10	3	4		
Out on additional charge	2	4	5	1	1	1	1		3		
Out for resentence											
Escaped	1	1	4	3	3	2	3	6	6	6	
Killed										1	1
Suicided	2				1	1		2	1	1	2
Died	12	13	14	15	28	30	32	31	31	24	19
Executed											
Reparoled											
Transferred to United States Prison, Leavenworth, Kan.											
Totals discharged	526	459	468	390	425	445	440	484	577	533	471

No. 1.

1, 1881, to June 30, 1910.

1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Totals.
421	512	374	376	491	412	439	350	400	564	503	454	505	442	499	674	692	717	----	13,543
23	41	23	40	21	41	16	27	18	36	35	30	12	20	18	35	21	22	----	585
----	6	2	24	----	----	----	----	----	----	1	6	----	50	----	1	----	1	----	308
21	15	10	3	18	12	11	8	8	3	7	8	3	1	5	9	20	14	----	280
3	1	1	8	4	----	----	1	----	1	5	----	1	1	----	1	----	2	----	42
4	1	----	----	1	----	----	----	4	----	----	1	4	9	5	1	1	1	----	62
----	----	7	----	6	6	5	1	----	3	1	5	----	1	4	5	1	1	----	46
----	----	1	2	----	----	----	----	----	----	----	1	1	----	----	----	----	----	----	29
----	----	1	2	1	1	2	----	----	1	----	2	----	----	----	----	----	2	----	15
----	----	1	1	----	1	----	1	----	----	1	----	3	4	1	9	12	17	----	51
3	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	12
----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	1	----	----	----	5
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3
----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	2
----	----	1	----	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	3
475	576	421	457	542	473	473	389	430	608	553	509	529	528	532	736	747	778	----	14,986
1233	1258	1351	1287	1300	1358	1350	1324	1309	1312	1476	1529	1476	1558	1588	1549	1702	1814	1922	--------
244	256	276	257	272	282	190	44	49	71	70	109	39	74	225	223	231	222	----	5,750
113	117	97	109	104	100	203	307	318	279	334	343	329	331	206	193	196	181	----	5,273
5	1	----	7	8	2	2	----	----	----	----	----	----	----	----	----	----	----	----	62
----	----	----	----	----	----	----	----	----	17	2	2	----	5	4	----	----	----	----	30
1	2	1	----	5	5	1	----	----	1	----	----	----	2	1	1	1	----	----	37
5	7	6	3	2	1	3	----	1	1	11	----	----	1	1	5	4	1	----	365
21	15	25	5	7	8	17	----	----	----	----	3	2	6	15	13	12	3	----	178
----	5	7	12	15	16	15	1	7	16	24	40	29	38	57	92	129	179	----	682
3	4	1	3	6	----	----	----	1	----	----	1	3	----	3	1	----	----	----	216
8	7	12	7	7	2	1	7	4	13	8	6	8	----	6	5	3	12	----	174
----	----	----	----	1	1	2	----	----	----	----	1	----	----	----	----	----	----	----	5
----	----	----	----	----	----	2	----	----	----	----	----	----	----	1	----	----	----	----	4
----	7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3	1	----	11
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	3	9	----	13
6	1	7	1	2	1	3	----	----	5	4	5	1	3	----	----	----	2	----	77
----	----	2	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	16
4	2	4	1	2	2	4	4	15	----	----	1	2	7	2	----	----	2	----	78
21	17	8	3	19	12	11	8	8	3	7	8	3	4	3	10	20	13	----	285
----	4	6	5	2	6	6	5	4	5	12	2	2	2	----	5	6	2	----	126
----	----	----	----	----	----	----	----	----	----	----	5	3	3	7	3	1	----	----	40
----	1	5	----	7	5	5	1	----	4	1	5	1	3	3	5	1	1	----	48
----	----	----	1	----	1	1	----	----	----	----	1	3	----	----	----	----	----	----	42
1	----	----	----	----	----	----	----	----	1	----	----	----	----	2	----	----	----	----	6
----	----	1	1	----	1	----	1	2	----	2	----	1	1	----	1	----	----	----	21
17	35	24	26	22	31	29	23	15	26	22	25	16	14	30	23	18	29	----	674
1	2	3	3	3	5	4	3	2	2	3	5	5	4	4	2	6	1	----	58
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1	----	2
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11	----	11
450	483	485	444	484	481	499	404	426	444	500	562	447	498	571	583	635	670	----	14,284

TABLE No. 2.

Summary of Receipts and Discharges from July 1, 1909, to June 30, 1910.

Month.	Received per commitment	Returned witness	Returned, resentenced	Returned for violating parole	Returned from Preston School	Returned from insane asylum	Transferred from Folsom	Returned on writ	Returned by order of court	Total received	Discharged per act and restored	Discharged per act	Paroled	Died	Executed	Transferred to insane asylum	Out as witness	Out for new trial	Out for resentence	Commuted by governor	Pardoned by governor	Transferred to Mare Island	Transferred to Preston School	Transferred to U. S. Prison, Leavenworth, Kansas	Reparoled	Out on writ	Discharged by order of court	Taken out by order of court	Total discharged	U. S. prisoners on hand at end of each month	On hand at end of month
1909—July	42	1		3				1		47	16	18	34	4		5		1				2				1			81	57	1780
August	42			2				1		45	18	12	6	7		2	2									1	1		49	57	1776
September	67	2	1	1						71	34	15	6	2		1	1		1										60	61	1787
October	80	1		7			1			89	17	18	21	1								1							58	59	1818
November	56								1	57	17	14	11	4			1	1				1						1	50	60	1825
December	59	2								61	15	14	28	1		3	1						1						63	60	1823
1910—January	61	3		1						65	19	8	10	3			3			1				11					55	48	1833
February	64									64	16	16	4			1						1							38	49	1859
March	72	1								73	8	19	15	1			1			1		2							47	43	1885
April	60	1		2		2				65	19	16	17	3			3					2			1				61	40	1889
May	67	3								70	13	17	16	1			1			1	1								50	40	1909
June	69			1	1					71	30	14	11	2	1														58	39	1922
Totals	739	14	1	17	1	2	1	2	1	778	222	181	179	29	1	12	13	2	1	3	1	9	1	11	1	2	1	1	670	.....	.....

Prisoners on hand June 30, 1909	1,814
Prisoners received during the year	778
Total	2,592
Prisoners discharged during the year	670
Prisoners on hand June 30, 1910	1,922
Increase over June 30, 1909	108
Monthly average	1,834$\frac{1}{6}$
Daily average	1,833$\frac{62}{365}$

TABLE No. 3.

Nativity of Prisoners.

Foreign Born.	Totals.	Born in United States.	Totals.
Africa	1	Alabama	12
At sea	2	Arizona	7
Australia	10	Arkansas	7
Austria	16	California	414
Azores	1	Colorado	12
Belgium	1	Connecticut	14
Bohemia	2	District of Columbia	3
Bulgaria	1	Delaware	2
Central America	2	Florida	1
Canada	41	Georgia	14
China	22	Illinois	94
Corea	1	Indiana	39
Denmark	9	Iowa	47
England	42	Idaho	4
Finland	8	Kansas	23
France	7	Kentucky	57
Germany	51	Louisiana	16
Greece	8	Maine	10
Holland	4	Maryland	10
Hungary	1	Massachusetts	43
Ireland	30	Michigan	29
India	2	Minnesota	10
Isle of Man	2	Mississippi	2
Italy	49	Missouri	53
Japan	16	Montana	6
Mexico	110	Nebraska	17
New South Wales	1	Nevada	12
New Zealand	2	New Hampshire	5
Nova Scotia	2	New Jersey	10
Norway	9	New York	121
Poland	2	New Mexico	2
Portugal	4	North Carolina	10
Prince Edward Island	1	North Dakota	1
Roumania	1	Ohio	56
Russia	5	Oklahoma	5
Scotland	7	Oregon	24
South America	4	Pennsylvania	70
Sweden	7	Rhode Island	10
Switzerland	12	South Dakota	1
Turkey	3	South Carolina	2
Wales	1	Tennessee	36
West Indies	4	Texas	47
		Utah	2
		Vermont	1
		Virginia	17
		Washington	7
		West Virginia	3
		Wisconsin	21
		Wyoming	1
		Cuba	2
		Hawaii	1
		Porto Rico	5
Total foreign born	504	Total native born	1,418

Recapitulation.

Foreign born 26 per cent	504	Brown	1
United States 74 per cent	1,418	Chinese	39
		Indians	24
Total	1,922	Japanese	15
		Negroes	118
Males	1,893	Whites	1,725
Females	29		
Totals	1,922	Total	1,922

TABLE No. 4.—*Classification of Crimes.*

Crime.	Totals.
Abduction	1
Administering poison	2
Arson	4
Arson, first degree	6
Arson, second degree	7
Arson, attempted	2
Assault, deadly weapon	37
Assault by means likely to produce great bodily injury	1
Bigamy	8
Burglary	80
Burglary, attempted	1
Burglary, and injuring public jail	5
Burglary, and priors	5
Burglary, first degree	216
Burglary, second degree	191
Burglary, first and second degrees	2
Burglary, atttempted, and burglary second degree	1
Burglary, first degree, and prior	26
Burglary, second degree, and prior	27
Burglary, first degree, attempt	6
Burglary, second degree, attempt	3
Burglary, second degree, attempt and prior	4
Burglary, and grand larceny	1
Child stealing	2
Counterfeiting	8
Crime against nature	14
Crime against nature, attempt	4
Crime against nature, and prior	1
Dynamiting a dwelling	2
Embezzlement	31
Extortion, attempt	1
Falsification of an account, public money	1
Felony	35
Felony, and prior	3
Forgery	140
Forgery, and prior	4
Grand larceny	206
Grand larceny, and prior	10
Grand larceny, attempt	4
Incest	8
Injuring public jail	4
Infamous felony	13
Kidnaping	1
Manslaughter	59
Manslaughter, and murder second degree	2
Manslaughter, voluntary	1
Manslaughter, involuntary	2
Mayhem	2
Murder	4
Murder, first degree	136
Murder, second degree	83
Murder, second degree, and robbery	1
Murder, assault to	51
Murder, assault to, and prior	3
Murder, assault to, and burglary	2
Murder, assault to, and injuring public jail	1
Obtaining money under false pretenses	8
Obtaining money under false pretenses, and injuring public jail	1
Obtaining property under false pretenses	1
Obtaining money and property under false pretenses	4
Obtaining money under false pretenses, attempt	1
Passing fictitious check	64
Passing fictitious check, attempt	1
Passing fictitious check, and prior	4
Perjury	7
Perjury, and prior	1
Petit larceny, and prior	16
Rape	61
Rape, assault to	25
Rape, assault to, and prior	1
Receiving stolen goods	7
Robbery	160
Robbery, and prior	16
Robbery, assault to commit	15
Robbery, assault to commit, and prior	4
Robbery, and assault to murder	1
Robbery, injuring public jail, and prior	1
Robbery, attempt	10
Scandalous conduct	3
Seduction	3
Sodomy	13
Sodomy and scandalous conduct	4
Violation of section 288, Penal Code	11
Violation of section 523, Penal Code	1
Violation of section 270, Penal Code	1
Violation of section 267, Penal Code	1
Violation of section 476*a*, Penal Code	1
Total	1,922

Recapitulation.

Crimes against property	1,239
Crimes against person	527
Crimes against both	4
Crimes infamous	54
Unclassified	98
Total	1,922

TABLE No. 5.—*Terms of Imprisonment.*

Term.	No.
One year	93
One year and one day	1
One year and three months	6
One year and four months	1
One year and six months	47
One year and eight months	1
One year and ten months	1
One year, eleven months, and fourteen days	1
Two years	185
Two years, one month, and eighteen days	1
Two years and six months	15
Three years	211
Three years and six months	14
Four years	125
Four years and six months	1
Four years and nine months	1
Five years	295
Five years and six months	3
Six years	80
Six years and two months	1
Seven years	75
Seven years and six months	3
Eight years	62
Nine years	21
Nine years and six months	3
Ten years	192
Eleven years	7
Twelve years	28
Thirteen years	5
Thirteen years and six months	1
Fourteen years	41
Fifteen years	60
Sixteen years	4
Seventeen years	5
Eighteen years	8
Twenty years	56
Twenty-one years	3
Twenty-four years	2
Twenty-five years	37
Twenty-seven years	1
Twenty-eight years	1
Thirty years	12
Thirty-one years	3
Thirty-five years	2
Forty years	7
Forty-five years	2
Fifty years	10
Sixty years	3
Sixty-six years	1
Ninety years	1
Ninety-nine years	1
Life	173
Death	9
Total	1,922

Average term of sentence, 7$\frac{3}{5}$ years.

Previous Terms.

Recidivists San Quentin and Folsom.	
Second term	236
Third term	75
Fourth term	15
Fifth term	7
Sixth term	4
Seventh term	2
Total	339

Reformatory Schools.	
Whittier, California	20
Preston, California	21
Colorado Reformatory	1
Illinois Reformatory	2
Indiana Reformatory	2
Kansas Reformatory	3
New York Reformatory	1
Ohio Reformatory	1
Oregon Reformatory	1
Michigan Reformatory	1
Washington Reformatory	1
Total	54

State Prisons.	
Arizona	3
Colorado	3
Connecticut	1
Illinois	5
Iowa	4
Kansas	2
Louisiana	2
Maryland	2
Massachusetts	1
Michigan	2
Minnesota	5
Missouri	3
Montana	2
Nebraska	1
New Jersey	1
New York	7
Nevada	5
North Dakota	2
Ohio	1
Oregon	7
Pennsylvania	2
Philippine Islands	2
Tennessee	1
Texas	3
Utah	4
Washington	13
Wisconsin	1
Wyoming	3
Total	88

Foreign Prisons.	
England	1
Mexico	1
Total	2

Federal prisons, 16; house of correction, 4; county jails, 143.

TABLE No. 6.

Age of Prisoners when Received.

Age.	Total.	Age.	Total.
Fifteen years	1	Forty-eight years	23
Sixteen years	13	Forty-nine years	9
Seventeen years	22	Fifty years	25
Eighteen years	51	Fifty-one years	10
Nineteen years	66	Fifty-two years	19
Twenty years	58	Fifty-three years	12
Twenty-one years	76	Fifty-four years	12
Twenty-two years	100	Fifty-five years	8
Twenty-three years	98	Fifty-six years	13
Twenty-four years	76	Fifty-seven years	13
Twenty-five years	73	Fifty-eight years	9
Twenty-six years	93	Fifty-nine years	4
Twenty-seven years	87	Sixty years	10
Twenty-eight years	92	Sixty-one years	6
Twenty-nine years	67	Sixty-two years	5
Thirty years	70	Sixty-three years	4
Thirty-one years	35	Sixty-four years	6
Thirty-two years	73	Sixty-five years	3
Thirty-three years	58	Sixty-six years	4
Thirty-four years	52	Sixty-seven years	2
Thirty-five years	54	Sixty-eight years	2
Thirty-six years	50	Sixty-nine years	2
Thirty-seven years	38	Seventy years	2
Thirty-eight years	46	Seventy-one years	3
Thirty-nine years	31	Seventy-two years	4
Forty years	46	Seventy-three years	2
Forty-one years	35	Seventy-four years	1
Forty-two years	43	Seventy-five years	2
Forty-three years	31	Seventy-six years	2
Forty-four years	12	Seventy-nine years	1
Forty-five years	23		
Forty-six years	21		
Forty-seven years	13	Total	1,922

Age of youngest prisoner now here, 16 years; of eldest, 80 years.

Educational Status.

Can read and write	1,749
Can not read nor write	173
Total	1,922

TABLE No. 7.

Counties Represented.

Counties.	No.	Counties.	No.
Alameda	152	Placer	44
Alpine	----	Plumas	8
Amador	10	Riverside	23
Butte	51	Sacramento	45
Calaveras	3	San Benito	9
Colusa	20	San Bernardino	54
Contra Costa	24	San Diego	63
Del Norte	4	San Francisco	325
El Dorado	2	San Joaquin	69
Fresno	83	San Luis Obispo	18
Glenn	9	San Mateo	10
Humboldt	21	Santa Barbara	20
Imperial	9	Santa Clara	36
Inyo	7	Santa Cruz	25
Kern	94	Shasta	21
Kings	18	Sierra	4
Lake	3	Siskiyou	16
Lassen	3	Solano	28
Los Angeles	277	Sonoma	27
Madera	10	Stanislaus	17
Marin	11	Sutter	2
Mariposa	6	Tehama	12
Mendocino	18	Trinity	3
Merced	23	Tulare	25
Modoc	2	Tuolumne	5
Mono	2	Ventura	18
Monterey	29	Yolo	11
Napa	15	Yuba	19
Nevada	6		
Orange	14	Total	1,883

United States Prisoners.

United States Districts.		*Naval Prisoners.*	
Northern California	16	Mare Island	5
Southern California	1	United States ships	11
Alaska	1	Philippine Islands	3
Washington	1	Total	19
China	1	Total United States districts	20
		Total United States prisoners	39
		Total State prisoners	1,883
Total	20	Total	1,922

TABLE No. 8.

Occupation of Prisoners Before Commitment.

Occupation.	No.	Occupation.	No.	Occupation.	No.
Accountant	8	Gambler	1	Plasterer	6
Actor	7	Gardener	16	Policeman	2
Amalgamator	1	Gasfitter	1	Railroadman	14
Architect	1	Glassbeveler	1	Reporter	1
Advertisement writer	1	Glassblower	2	Rigger	1
Artist	1	Harnessmaker	7	Restaurateur	2
Automobile mach'st	1	Hairdresser	2	Roofer	1
Baker	19	Horseshoer	3	Saddler	2
Barber	44	Hostler	18	Sailor	26
Bartender	14	Hotelkeeper	11	Salesman	27
Banker	1	Housekeeper	14	Saloon keeper	2
Blacksmith	33	Ironworker	6	Shingler	2
Boilermaker	13	Insurance agent	1	Ship plumber	1
Bookkeeper	24	Iron molder	6	Seafaring man	4
Bootblack	3	Jeweler	2	Ship caulker	1
Brewer	2	Jockey	1	Shoemaker	36
Broommaker	1	Junk dealer	3	Shop girl	1
Bricklayer	9	Laborer	435	Shingle weaver	2
Butcher	23	Lather	2	Soldier	3
Cabinetmaker	5	Laundryman	15	Sign painter	2
Card writer	1	Lineman	2	Solicitor	9
Carpenter	82	Lithographer	3	Spinner	1
Cement worker	6	Longshoreman	2	Steam fitter	8
Chiropodist	2	Lawyer	5	Steward	7
Cigarmaker	2	Liveryman	3	Steeplejack	1
Clerk	66	Lighthouse keeper	1	Stenographer	6
Cellar packer	1	Machinist	45	Stone cutter	4
Cook	125	Molder	2	Stone mason	5
Cowboy	3	Mechanic	1	Stock dealer	3
Chauffeur	2	Merchant	11	Stereotyper	1
Coal passer	1	Milliner	1	Street car conductor	3
Dairyman	3	Marble cutter	1	Student	3
Derrickman	1	Messenger	2	Surveyor	1
Dishwasher	2	Miner	61	Tailor	40
Dressmaker	4	Millwright	1	Teamster	82
Driller	1	Miller	6	Telegrapher	4
Druggist	6	Musician	8	Tinsmith	8
Dentist	1	Nurse	9	Tooldresser	1
Dyer	1	Oiler	1	Upholsterer	3
Electrician	26	Oildriller	1	Veterinary surgeon	2
Engineer, mechanical	26	Painter	61	Vulcanizer	1
Engineer, civil	3	Paperhanger	4	Waiter	82
Engineer, mining	1	Papermaker	1	Watchmaker	2
Engineer, electrical	2	Peddler	3	Watertender	1
Engraver	1	Photographer	5	Wheelwright	2
Embalmer	1	Physician	8		
Editor	1	Plumber	19	Total	1,922
Farmer	54	Porter	7		
Fireman	33	Printer	12		
Fisherman	1	Pugilist	3		

Recapitulation.

Professions	51
Mechanical trades	422
Other trades and occupations	1,014
Laborers	435
Total	1,922

TABLE No. 9.

Life Prisoners.

Crimes.	No.	Actual time served by life prisoners now here.	No.
Assault to murder and two priors	1	Twenty-eight years	1
Burglary, first degree, and prior	1	Twenty-seven years	1
Felony	2	Twenty-three years	1
Murder	4	Twenty years	1
Murder, first degree	122	Eighteen years	1
Murder, second degree	20	Seventeen years	1
Murder, second degree, and robbery	1	Sixteen years	1
Rape	10	Fifteen years	4
Robbery	9	Fourteen years	3
Robbery, and priors	3	Thirteen years	3
		Twelve years	4
Total	173	Eleven years	3
		Ten years	7
Recidivists.		Nine years	6
Second term	19	Eight years	11
Third term	4	Seven years	15
Fourth term	1	Six years, or less	110
Fifth term	2		
Serving first term	147	Total	173
Total	173		
Classification.			
Chinese	10		
Indians	1	*Life Prisoners on Parole.*	
Negroes	11	Whites (male, 28; female, 1)	29
Whites, (male)	147	Chinese	8
Whites, (female)	4	Negroes	1
Total	173	Total	38

TABLE No. 10.

Paroled Prisoners.

TABLE "A"—ACCOUNTING FOR THE WHOLE NUMBER PAROLED SINCE THE LAW WAS PASSED (1893).

Total paroles granted since 1893	------	682
Discharged while on parole	319	
Died while on parole	17	
Sentence commuted and discharged while on parole	11	
Pardoned while on parole	43	
Suicided while on parole	3	
Transferred to asylum while on parole	1	
Parole violated, not yet apprehended	20	
Parole violated and returned to prison (2 reparoled)	51	
Parole violated and returned to prison on new charge	6	
Now on parole and reporting regularly	205	
Paroled and deported (Chinese)	6	
Totals	682	682

Paroles honored 607, or 89 per cent.
Paroles violated 75, or 11 per cent.
Average number paroled each year, 40.

TABLE "B"—SHOWING OPERATIONS DURING THE SIXTY-FIRST FISCAL YEAR.

On parole and reporting July 1, 1909	160	
On parole and not reporting (violators) July 1, 1909	12	
Paroled during the year	179	
Paroled and deported	------	4
Discharged during the year	------	71
Died	------	8
Suicided	------	2
Transferred to asylum	------	1
Pardoned	------	21
Peturned for violation of parole (1 reparoled)	------	17
Violators not yet apprehended	------	20
Now on parole and reporting regularly	------	205
Returned on new charge	------	2
Totals	351	351

TABLE No. 11.

Relating to those confined June 30, 1910.

RELIGION.

Roman Catholics	773
Protestants	816
Oriental religions	52
Hebrews	26
Miscellaneous	21
No religion	234
Total	1,922

SOCIAL STATUS.

Married	427
Widowers	113
Widows	7
Divorced	66
Single	1,141
Not stated	168
Total	1,922

HABITS.

Addicted to liquor, tobacco, and opiates	43
Addicted to liquor and tobacco	1,205
Addicted to liquor	29
Addicted to tobacco	424
No habits	57
Habits not stated	164
Total	1,922

TABLE No. 12

Photographs of Prisoners.

	1909.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Regular monthly reports to sheriffs, chiefs of police, etc.	1,755	1,845	3,015	4,455	2,970	3,190
To sheriffs, chiefs of police, etc., by special request	105	64	95	45	122	115
Recidivists about to be discharged, to sheriffs, etc.		1,250			880	
Parole violators		1,000	220	220	260	2,150
Extra	150	100	216	200	2,198	1,175
Totals	2,010	4,259	3,546	4,920	6,430	6,630

	1910.					
	Jan.	Feb.	Mar.	April.	May.	June.
Regular monthly reports to sheriffs, chiefs of police, etc.	3,355	3,520	3,860	3,300	3,685	3,795
To sheriffs, chiefs of police, etc., by special request	95	175	105	115	90	65
Recidivists about to be discharged, to sheriffs, etc.		990			1,440	
Parole violators		1,685	775	775	775	2,270
Escape from insane asylum at Ukiah			775			
Extra	180	3,910	240	130	205	270
Totals	3,630	10,280	5,755	4,320	6,195	6,400

Total photographs made and distributed during fiscal year	64,375
Maintenance of photograph gallery for fiscal year	$671.93
Average cost of each photograph	.010+

TABLE No. 13.

Statement of average terms served by prisoners discharged during sixty-first fiscal year.

Expiration of sentence	403
403 prisoners served 11,583½ months, an average of 2 years and 5 months each.	
Paroled (1 reparoled)	180
163 term prisoners served 7,072½ months, an average of 3 years 7 months and 11 days each.	
17 life prisoners served 2,764½ months, an average of 13 years 6 months and 18 days each.	
180 prisoners served 9,837 months, an average of 4 years 6 months and 20 days each.	
Pardoned	1
1 term prisoner served 13 days.	
Commuted	3
2 term prisoners served 304 months, an average of 12 years and 8 months each.	
1 life prisoner served 74 months, an average of 6 years and 2 months.	
3 prisoners served 378 months, an average of 10 years and 6 months each.	
Died	29
28 term prisoners served 989½ months, an average of 2 years 11 months and 10 days each.	
1 life prisoner served 45½ months, an average of 3 years 9 months and 15 days.	
29 prisoners served 1,035 months, an average of 2 years 11 months and 21 days each.	
Transferred	33
24 term prisoners served 651½ months, an average of 2 years 3 months and 4 days each.	
9 life prisoners served 1,096 months, an average of 10 years 1 month and 23 days each.	
33 prisoners served 1,747½ months, an average of 4 years 4 months and 28 days each.	
Discharged by order of court	1
1 prisoner served 44 months, an average of 3 years and 8 months.	
Discharged, but not included in this average	20
13 out as witness, 2 for new trial, 3 out on writ, 1 for resentence, and 1 executed.	
Total discharged	670
Not to be included in average	20
Basis for average	650

TOTALS.

Term prisoners—

622 discharged prisoners served 20,645½ months, an average of 2 years 9 months and 6 days each.

Life prisoners—

28 life prisoners served 3,980 months, an average of 11 years 10 months and 4 days each.

Grand total—

650 prisoners discharged during the sixty-first fiscal year served 24,625½ months, an average of 3 years 1 month and 27 days each.

CAPTAIN OF THE YARD'S REPORT.

San Quentin, Cal., June 30, 1909.

To Hon. John E. Hoyle, *Warden of State Prison at San Quentin, Cal.*

Dear Sir: I have the honor to herewith submit my annual report, in tabular statements, for the fiscal year ending June 30, 1909.

Very respectfully yours,

S. L. RANDOLPH,
Captain of the Yard.

PRODUCTIVE LABOR FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

Departments.	1908.						1909.						Totals for year.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	
Jute department	20,159	20,301	18,584	20,970	18,183	19,469	21,030	18,689	21,337	20,413	19,637	20,630	239,402
Engineer's department	62	62	60	62	60	62	62	72	62	91	186	210	1,051
Foundry department	808	793	746	853	853	757	717	667	764	777	825	894	9,454
Stock and stable department	465	558	546	308	570	589	565	525	589	573	581	557	6,426
Female department	1,064	1,079	1,050	1,033	945	958	933	840	935	929	904	846	11,516
Wheelwright's department	26	26	30	28	26	22							158
Upholsterer's department	55	52	52	54	48	52	54	44	54	52	54	60	631
Locksmith's shop	31	26	30	31	30	31	31	28	31	53	62	60	444
Carpenter shop	380	371	374	410	327	347	406	324	400	407	417	439	4,602
Plumbing shop	93	93	90	93	90	93	93	84	93	90	93	99	1,104
Paint shop	235	243	225	175	92	100	100	88	96	118	163	186	1,821
Tin shop	130	130	120	124	106	128	147	94	135	156	260	216	1,746
Coal yard	31	31	29	30	30	29	31	28	31	30	31	30	361
Vegetable gardens	754	754	743	791	701	713	701	639	898	853	879	890	9,316
Flower gardens	450	442	229	461	391	382	400	386	515	479	475	494	5,104
Improvements	133	155	110	218	136	144	182	154	170	149	199	162	1,912
Stevedores	248	249	208	197	208	202	225	204	270	353	349	435	3,148
Road gang	759	741	732	915	778	797	714	565	737	648	748	809	8,943
Chicken ranch	93	93	93	98	90	124	105	84	93	90	120	136	1,219
Hog ranch	62	62	60	62	60	62	62	56	62	60	62	60	730
Blacksmith shop	104	112	90	125	114	162	150	141	163	176	200	182	1,719
Laundry	1,151	1,097	1,057	1,201	1,065	1,052	1,055	931	1,210	1,211	1,118	1,116	13,264
Shoe shop	534	545	504	516	450	393	526	487	623	645	650	669	6,542
Tailor shop	707	742	651	844	720	770	817	759	919	839	867	939	9,574
Construction	6,567	6,359	5,878	6,340	5,343	5,524	5,656	5,323	7,873	7,540	7,090	7,218	76,711
Aggregate monthly totals	35,101	35,116	32,291	35,939	31,416	32,962	34,762	31,212	38,060	36,732	35,970	37,337	416,898

Nonproductive Labor for the Fiscal Year Ending June 30, 1909.

Department.	1908.						1909.						Totals for Year.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	
Warden's office				15	30	31	31	28	31	30	31	30	257
Captain of yard's office	328	242	232	248	240	217	240	224	248	222	189	171	2,801
Clerk's office	62	62	102	91	60	62	62	56	62	60	72	60	811
Captain of guard's office	57	62	60	62	60	91	105	84	93	90	93	90	947
Commissary department	215	230	210	217	209	217	217	189	217	210	217	222	2,570
Library	155	155	150	155	128	152	155	149	181	180	186	180	1,926
Barber shop	449	394	456	465	450	441	450	420	466	481	482	480	5,434
Lamp lighters	31	31	30	31	30	31	31	28	31	30	31	30	365
Cell and room tenders	1,056	1,017	990	792	959	968	911	896	1,015	985	1,031	1,003	11,623
Gate and door tenders	457	485	520	477	478	465	442	401	517	439	462	459	5,602
Hospital nurses	233	248	240	248	248	248	248	224	221	262	269	239	2,928
Sweepers	234	246	75	257	240	248	248	224	239	184	168	210	2,573
Scavengers	583	579	240	531	448	504	462	471	540	515	553	554	5,980
Whitewashers	130	88	75	81	69	75	75	58	54	64	139	130	1,038
Guards' kitchen and dining-room	2,714	2,632	2,554	2,742	2,640	2,623	2,765	2,358	2.811	2,747	2,802	2,676	32,064
Outside kitchen	837	828	797	874	837	865	867	787	889	829	870	874	10,134
Hospital kitchen	93	93	90	93	90	93	93	84	96	90	93	90	1,098
House servants	626	566	503	511	472	790	616	536	662	575	621	623	7,101
Electricians	93	93	90	93	90	93	93	84	93	145	290	281	1,538
Photographers	47	31	30	31	30	31	42	28	31	30	31	30	392
Messengers	62	61	60	62	60	60	62	56	62	60	62	60	727
Guard's department	155	155	161	167	180	180	186	168	186	180	186	181	2,085
Cripples and insane	524	363	460	455	511	454	486	472	520	480	504	473	5,702
Dungeon and daily excused	404	465	578	624	430	504	334	435	426	458	517	583	5,758
Patients in hospital	1,125	1,154	759	1,118	870	1.343	1,346	1,128	1,185	1,228	1,213	1,027	13,496
To be executed	246	186	188	187	193	217	235	152	155	161	186	180	2,286
Unemployed	268	217	226	162	141	166	234	236	290	296	284	321	2,841
Aggregate monthly totals	11,184	10,683	9,876	10,789	10,193	11,169	11,036	9,976	11,301	11,031	11,582	11,257	130,077

CAPTAIN OF THE YARD'S REPORT.

To Hon. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

SIR: I have the honor to submit herewith my annual report for the fiscal year ending June 30, 1910.

S. L. RANDOLPH,
Captain of Yard.

Nonproductive Labor for the Fiscal Year ending June 30, 1910.

Department.	1909.						1910.						Totals for year.
	July.	August.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April.	May.	June.	
Warden's office	31	31	30	31	30	31	28	28	28	30	31	36	365
Captain of yard's office	190	242	240	246	210	248	248	224	248	240	248	240	2,824
Clerk's office	62	62	60	62	60	57	62	56	62	60	62	60	725
Captain of guard's office	93	93	90	95	90	93	93	84	93	92	93	90	1,099
Commissary	243	217	211	219	230	186	210	196	217	205	217	221	2,572
Laundry	973	1,196	1,086	1,130	1,179	1,238	1,239	1,052	1,153	1,263	1,246	1,448	14,203
Library	180	186	150	153	120	83	135	144	178	196	192	193	1,910
Barbers	480	511	507	522	480	425	484	430	513	517	492	469	5,830
Shoemakers	668	694	642	696	679	689	676	586	708	660	654	687	8,039
Tailors	954	942	868	973	975	947	980	809	945	965	946	972	11,276
Lamp lighters	31	31	30	31	30	31	31	28	31	30	31	30	365
Cell and room tenders	1,031	1,040	1,026	1,044	1,018	1,054	1,050	935	1,045	807	1,054	1,088	12,192
Gate and door tenders	465	449	450	464	450	463	465	420	444	428	418	420	5,336
Hospital nurses	248	271	270	279	297	310	310	281	310	300	310	325	3,511
Sweepers	188	174	180	186	210	231	225	168	193	182	194	209	2,340
Scavengers	562	521	519	626	529	547	510	239	598	592	573	556	6,372
Whitewashers	130	130	88	50	50	42	46	44	54	52	62	104	852
General mess	2,789	2,888	2,843	2,905	2,869	2,976	2,980	2,658	2,937	2,863	2,869	2,827	34,404
Outside kitchen	847	869	840	868	840	868	868	784	896	870	899	922	10,371
Hospital kitchen	92	93	90	93	90	93	93	84	93	90	93	96	1,100
House servants	585	586	556	608	593	525	580	495	572	580	620	588	6,888
Electricians	288	280	250	313	237	260	260	220	270	255	310	300	3,243
Photographers	62	62	60	62	60	62	62	56	62	60	62	60	730
Messengers	63	62	60	62	60	62	62	56	62	60	62	60	731
Guards' department	186	188	180	186	180	186	187	198	217	210	217	210	2,345
Cripples and insane	473	337	360	423	422	442	421	364	408	425	472	432	4,979
Doctor's excuses, dungeon, etc.	810	1,059	612	435	529	462	332	360	353	391	395	457	6,195
Patients in hospital	1,151	1,275	1,241	1,152	965	877	1,071	992	1,179	1,289	1,035	988	13,215
To be executed	186	186	182	217	211	248	248	224	248	240	279	260	2,729
Unemployed	318	308	431	517	464	431	388	348	408	430	452	447	4,942
Totals	14,379	14,983	14,152	14,648	14,157	14,167	14,344	12,563	14,525	14,382	14,588	14,795	171,683

Productive Labor for the Fiscal Year ending June 30, 1910.

Department.	1909. July.	August.	Sept.	Oct.	Nov.	Dec.	1910. Jan.	Feb.	March.	April.	May.	June.	Totals for Year.
Jute department	20,016	19,918	18,849	20,095	20,716	19,245	19,801	19,168	23,640	22,145	21,541	22,653	247,787
Engineer's department	175	186	186	175	175	181	175	159	193	162	200	208	2,175
Machine shop	856	882	853	898	827	925	576	769	936	898	970	1,044	10,434
Stable	558	589	570	594	564	594	589	532	561	540	599	600	6,890
Female department	884	899	884	947	900	909	858	828	925	907	930	774	10,645
Upholsterers	62	62	60	62	60	62	70	56	62	60	62	58	736
Locksmiths	31	31	30	31	30	31	31	28	31	30	31	30	365
Carpenters	416	416	402	424	438	452	426	374	477	472	523	529	5,349
Plumbers	104	78	72	93	90	104	90	88	108	108	100	104	1,139
Painters	168	165	168	170	168	182	130	78	91	76	50	56	1,502
Tinners	170	226	221	239	225	194	185	154	189	182	187	183	2,355
Coal yard	31	31	30	31	30	31	31	28	31	30	31	30	365
Vegetable garden	863	976	1,009	1,071	1,034	964	931	877	1,140	1,194	1,227	1,336	12,622
Flower garden	494	489	451	452	435	484	439	375	458	465	517	558	5,617
Improvements	156	130	159	168	102	52	50	44	72	99	399	447	1,878
Stevedores	438	437	347	366	322	340	380	352	416	398	412	438	4,646
Road gang	871	1,048	1,211	1,293	1,245	1,189	1,150	1,023	1,307	1,275	1,190	1,223	14,025
Chicken ranch	155	155	150	124	120	124	124	112	128	120	124	120	1,556
Hog ranch	62	62	60	62	60	62	62	56	62	60	62	60	730
Blacksmiths	186	217	168	175	169	177	147	169	199	182	180	173	2,142
Construction	7,262	6,524	5,459	5,725	5,741	6,013	5,752	5,249	6,152	6,365	5,906	6,034	72,182
Totals	33,958	33,521	31,339	33,195	33,451	32,315	31,997	30,519	37,178	35,768	35,241	36,658	405,140

CAPTAIN OF THE GUARD'S REPORT.

OFFICE OF CAPTAIN OF GUARD,
SAN QUENTIN, CALIFORNIA, July 1, 1909.

To Hon. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

DEAR SIR: I hereby submit my report for the fiscal year ending June 30, 1909. It affords me great pleasure to report that no escapes have taken place during the past year. One attempt was made by a carpenter working at one of the officer's houses, who secreted himself under the house and stayed there five days before he ventured from his lair, and was caught by one of the guards at 2 A. M. No opium or other drugs have been smuggled into the prison during the past year.

But one serious incident happened this year to mar your most successful administration. An unfortunate fire started in one of the large jute warehouses situated at the water front, owing to spontaneous combustion. Four hundred prisoners were working outside the walls at the time, and the discipline among the prisoners was excellent. Thirty-five of the prisoners were kept out all night to fight the fire, and no attempts were made to escape. Unfortunately one prisoner was fatally injured at the fire.

No. 7 gatling gun post, which was situated on the top of the warehouse that was burned, was destroyed, and has been rebuilt and put in action this month.

Target practice is taking place this month, and the officers and guards are making satisfactory scores, and continue to improve with practice.

I would recommend that eighteen new sawed off shotguns be purchased for the armory as soon as convenient, as the ones now in use are in bad shape, owing to long usage. I would also recommend that Winchester rifles .32-40 caliber be adopted in place of our present rifles, as they are more modern and easier handled, and shoot more effectively than the guns in our armory, and I am informed that most of the prisons in the United States are adopting guns of a smaller caliber.

During the past year there were received on commitments to this prison 747 prisoners, while the discharges for the year numbered 635, showing an increase of 112 for the year.

With pleasure I report that the guards under my charge have been faithful and watchful, and have been attentive to their various duties, and with their valuable assistance my work has been made a pleasure.

I hereby append in tabulated form my report on the number of prisoners received and discharged from this institution during the past fiscal year; also, the number of prisoners having receptions; also, the number of visitors shown through the prison during the fiscal year.

Respectfully submitted.

E. V. ELLIS,
Captain of Guard.

TABLE No. 1.

Prisoners received and discharged.

Prisoners received.		Prisoners discharged.	
1908—July	60	1908—July	62
August	39	August	58
September	53	September	40
October	55	October	72
November	56	November	33
December	72	December	54
1909—January	82	1909—January	48
February	65	February	54
March	72	March	58
April	61	April	46
May	67	May	55
June	65	June	55
Total	747	Total	635

On hand June 30, 1908	1,702
On hand June 30, 1909	1,814
Increase	112

TABLE No. 2.

Visitors from July 1, 1908, to July 1, 1909.

Prisoners granted visits		Visitors shown through the prison.	
1908—July	242	1908—July	335
August	306	August	426
September	234	September	462
October	265	October	328
November	240	November	142
December	221	December	174
1909—January	206	1909—January	162
February	244	February	193
March	239	March	179
April	245	April	216
May	283	May	277
June	265	June	325
Total	2,990	Total	3,219

CAPTAIN OF THE GUARD'S REPORT

FOR THE SIXTY-FIRST FISCAL YEAR ENDING JUNE 30, 1910.

Captain of Guard's Department,
San Quentin, California, June 30, 1910.

To Hon. John E. Hoyle, *Warden of State Prison at San Quentin, Cal.*

Sir: I hereby submit my report for the fiscal year ending June 30, 1910. I am pleased to report that no escapes or attempts to escape have taken place during the past year, which shows that the wall and post guards have been very watchful and strictly attentive to their various duties, as an average of five hundred (500) men are working outside the walls, scattered all over the prison reservation.

I am pleased to report but one attempt was made to smuggle drugs into the prison during the year, and the violator was speedily captured.

During the past year there were received on commitment to this prison 778 prisoners, while the discharges for the year numbered 670 prisoners, showing an increase of 108 prisoners for the year.

I would recommend that one dozen shotguns be purchased for the armory, as our shotguns now in use are in bad shape.

I would also recommend that .32-40 Winchester rifles be exchanged for the .40-65 rifles now in use, as they are lighter and more serviceable.

I am pleased to report that all the guards under my charge have attended strictly to their duties, and I have had no cause to censure any of them during the past year, and I have had fine discipline. Our annual target practice is now taking place, and better averages are being made than for years.

I append herewith, in tabulated form, my report on the number of prisoners received and discharged from this institution during the past fiscal year; also, the number of prisoners visited by relatives and friends; also, a record of the number of visitors shown through the prison during the fiscal year.

Your respectfully,

E. V. ELLIS,
Captain of the Guard.

TABLE No. 1.

PRISONERS RECEIVED AND DISCHARGED.

Prisoners Received.		Prisoners Discharged.	
1909—July	47	1909—July	81
August	45	August	49
September	71	September	60
October	89	October	58
November	57	November	50
December	61	December	63
1910—January	65	1910—January	55
February	64	February	38
March	73	March	47
April	65	April	61
May	70	May	50
June	71	June	58
Total	778	Total	670

On hand June 30, 1909	1,814
On hand June 30, 1910	1,922
Increase	108

TABLE No. 2.

Visitors from July 1, 1909, to June 30, 1910.

Prisoners Granted Receptions.		Visitors Shown Through the Prison.	
1909—July	282	1909—July	351
August	301	August	451
September	248	September	391
October	399	October	303
November	290	November	194
December	239	December	174
1910—January	291	1910—January	171
February	274	February	262
March	306	March	229
April	316	April	195
May	333	May	261
June	323	June	327
Total	3,602	Total	3,309

REPORT OF DISTRIBUTION DEPARTMENT.

FOR THE SIXTIETH FISCAL YEAR ENDING JUNE 30, 1909.

San Quentin, Cal., June 30, 1909.

To Hon. J. E. Hoyle, *Warden of State Prison at San Quentin, Cal.*

Sir: I have the honor to submit herewith an annual report, in tabular form, of the distribution department for the sixtieth fiscal year ending June 30, 1909.

W. S. GILLETT,
Distributing Officer.

TABLE No. 1.

Clothing Manufactured from July 1, 1908, to June 30, 1909.

Month.	Citizen's clothing.						Prisoners' clothing.													
	Coats	Vests	Pants	Shirts	Hats	Shoes	Coats	Vests	Pants	Boots	Shoes	Slippers	Hickory shirts	Drawers	Under-shirts	Shirts	Caps	Socks	Blankets	Women's shoes
1908—July	18	20	23	------	------	27	52	126	321	------	147	1	8	60	60	315	105	576	------	------
August	20	20	21	------	30	24	80	121	321	------	152	12	42	301	321	223	177	576	75	------
September	19	22	19	------	------	52	75	84	287	------	140	9	------	251	251	210	128	576	------	3
October	15	13	18	------	------	22	83	93	312	------	151	8	21	190	160	219	162	576	------	------
November	12	14	21	------	36	22	65	80	223	------	118	14	8	250	230	211	130	576	50	2
December	16	17	18	------	------	28	61	102	290	------	156	3	2	282	222	243	169	576	50	1
Totals first half	100	106	120	------	66	175	416	606	1,754	------	864	47	81	1,334	1,244	1,421	871	3,456	175	6
1909—January	17	14	14	------	24	28	91	124	322	------	191	------	12	222	222	334	161	576	100	------
February	16	14	26	------	------	48	136	74	274	------	191	------	21	321	321	192	176	720	100	2
March	16	21	10	------	36	13	140	134	385	------	149	9	2	240	240	289	256	960	100	2
April	11	10	12	------	------	23	60	93	272	------	221	2	------	270	240	270	176	720	------	------
May	14	12	14	------	36	21	98	120	277	------	220	3	6	271	261	249	144	720	------	2
June	16	30	27	------	36	30	128	151	239	------	283	5	20	369	505	256	118	720	------	2
Totals second half	90	101	103	------	132	163	653	696	1,769	------	1,255	19	61	1,693	1,789	1,590	1,031	4,416	300	8
Totals for year	190	207	223	------	198	338	1,069	1,302	3,523	------	2,119	66	142	3,027	3,033	3,011	1,902	7,872	475	14

TABLE No. 2.

Clothing Issued to Prisoners from July 1, 1908, to June 30, 1909.

Month.	Citizen's clothing.						Prisoners' clothing.														
	Coats	Vests	Pants	Shirts	Hats	Shoes	Coats	Vests	Pants	Shoes	Slippers	Hickory Shirts	Drawers	Undershirts	Shirts	Caps	Socks	Blankets	Beds	Yards of Bed-ticking	Repairs
1908—July	20	23	21	2	16	27	57	105	286	137	7	17	131	131	282	123	680	6	50	191	494
August	22	24	27		16	33	87	109	344	146	11	13	276	276	231	171	664	2	45	150	430
September	11	11	12		14	33	67	86	239	164	6	10	213	213	192	133	532	20	45	146	353
October	27	30	32	2	27	33	86	120	324	178	15	7	223	223	246	162	717	17	60	200	530
November	14	14	16	2	21	37	69	90	211	173	7	16	245	245	200	152	532	32	45	150	560
December	9	10	11	1	19	30	92	119	282	176	11	2	307	252	246	178	654	62	30	100	595
Totals first half	103	112	119	7	113	193	458	629	1,686	974	57	65	1,395	1,340	1,397	919	3,779	139	275	937	2,962
1909—January	19	22	22	3	13	31	89	97	301	195	7	2	244	222	271	141	652	107	30	100	650
February	29	30	30	3	20	36	106	129	305	210	3	7	271	229	157	157	714	66	80	325	580
March	13	16	15	1	15	27	120	125	283	156	2	35	269	311	294	249	716	10	35	120	540
April	14	14	14	2	17	26	69	70	271	276	10	12	262	259	295	160	655	46	60	200	465
May	12	13	12	6	17	20	129	153	275	163	5	8	251	250	248	157	608	18	55	180	350
June	6	7	8		12	26	115	118	269	200	1	24	224	224	287	193	650	26	65	235	410
Totals second half	93	102	101	15	94	166	628	692	1,704	1,200	28	88	1,521	1,495	1,552	1,057	3,995	273	325	1,160	2,995
Totals for year	196	214	220	22	207	359	1,086	1,321	3,390	2,174	85	153	2,916	2,835	2,949	1,976	7,774	412	600	2,097	5,957

TABLE No. 3.

Miscellaneous Supplies issued from July 1, 1908, to June 30, 1909.

Month.	Chloride lime, barrels	Tanks coal oil	Gross matches	Family brooms	Mill brooms	No. 1 Lamp chimneys	No. 2 Lamp chimneys	No. 1 Lamp burners, gross lots	No. 2 Lamp burners, gross lots	No. 1 Lamp wicks, gross lots	No. 2 Lamp wicks, gross lots	Mop handles	Toilet paper, rolls	Writing paper, ream lots	Envelopes	Penholders	Gross of pens	Bottles of ink	Bars of sapolio	Papers of needles	Boxes of skein thread	Scrubbing brushes	Shoe laces, gross lots
1908—July	7	6	65	25	12	36	132	⅛	¼	½	½	2	200	4	1,500	12	1	3	30	40	5	1	12
August	8	6	65	25	12	36	132	⅛	¼	½	½	2	200	5	2,000	12	1	3	30	40	5	1	12
September	10	7	85	25	12	36	132	⅛	¼	½	½	2	200	4	2,000	12	1	3	30	40	5	1	12
October	8	6	65	25	12	36	132	⅛	¼	½	½	2	200	4	1,500	12	1	3	30	40	5	1	15
November	10	10	90	25	12	36	132	⅛	¼	½	½	2	200	4	2,000	12	1	3	30	40	5	1	12
December	8	8	75	25	12	36	132	⅛	¼	½	½	2	200	4	1,500	12	1	3	30	40	5	1	12
Totals first half	51	43	445	150	72	216	792	¾	1½	3	3	12	1,200	25	10,500	72	6	18	180	240	30	6	75
1909—January	4	8	65	25	12	36	132	⅛	¼	½	½	2	300	4	2,000	12	1	3	30	40	5	1	14
February	2	8	65	25	12	36	132	⅛	¼	½	½	2	300	4	2,000	12	1	3	30	40	5	1	14
March	3	9	95	25	12	36	132	⅛	¼	½	½	2	300	4	1,500	12	1	3	30	40	5	1	12
April	4	7	70	25	12	36	132	⅛	¼	½	½	2	300	4	1,500	12	1	3	30	40	5	1	12
May	1	7	80	25	12	36	132	⅛	¼	½	½	2	300	4	1,500	12	1	3	30	40	5	1	14
June	4	8	95	25	12	36	132	⅛	¼	½	½	2	300	4	1,500	12	1	3	30	40	5	1	12
Totals second half	18	47	470	150	72	216	792	¾	1½	3	3	12	1,800	24	10,000	72	6	18	180	240	30	6	78
Totals for year	69	90	915	300	144	432	1,584	1½	3	6	6	24	3,000	49	20,500	144	12	36	360	480	60	12	153

TABLE No. 4.

Second-hand Clothing Used in Discharging Prisoners from July 1, 1908, to June 30, 1909.

Month.	No. of prisoners discharged.	Coats	Vests	Pants	Shirts	Hats	Shoes	Undershirts	Drawers	Socks	Rebate.
1908—July	32	13	10	12	30	15	21	30	30	----	$114 84
August	50	30	28	25	50	34	29	37	35	----	218 00
September	20	9	9	8	20	6	8	20	15	----	65 60
October	60	27	30	32	54	27	27	38	38	----	238 20
November	28	14	14	12	26	7	8	25	25	----	90 72
December	30	21	20	19	29	11	13	26	26	----	130 80
Totals first half	220	114	111	108	209	100	106	176	169	----	$858 16
1909—January	30	14	12	11	27	17	13	27	27	----	$106 20
February	44	14	13	13	41	23	18	36	36	----	129 36
March	47	34	31	33	47	31	27	34	36	----	231 24
April	31	17	17	17	29	14	17	18	17	----	121 52
May	41	29	28	29	35	24	28	35	35	----	198 44
June	34	28	27	26	34	22	20	34	34	----	184 96
Totals second half	227	136	128	129	213	131	123	184	185	----	$971 72
Totals for year	447	250	239	237	422	231	229	360	354	----	$1,829 88

Number of prisoners discharged	447
Total amount rebate to State	$1,829 88
Average rebate per prisoner	4 10

REPORT OF DISTRIBUTION DEPARTMENT.

For the Fiscal Year ending June 30, 1910.

To Hon. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

SIR: I have the honor to submit herewith an annual report, in tabular form, for the sixty-first fiscal year, commencing July 1, 1909, and ending June 30, 1910.

W. S. GILLETT,
Distributing Officer.

TABLE No. 1.

Clothing Manufactured from July 1, 1909, to June 30, 1910.

Month.	Citizen's Clothing.						Prisoners' Clothing.													
	Coats	Vests	Pants	Shirts	Hats	Shoes	Coats	Vests	Pants	Boots	Shoes	Slippers	Hickory shirts	Drawers	Under-shirts	Shirts	Caps	Socks	Blankets	Women's shoes
1909—July	24	24	19			21	110	153	325		254	14	16	241	241	222	136	720		4
August	28	25	27	12		19	101	124	332		221	2	32	260	260	246	160	240		2
September	16	18	17	4	36	28	78	77	291		247	20	2	282	282	265	208	200		5
October	12	10	12		24	39	92	103	322	6	296	12	16	280	280	300	232	720	50	4
November	4	8	5			16	153	154	312	7	252		16	340	340	289	214	720	50	2
December	7	7	7		12	9	101	140	333	11	258	16	16	243	240	236	238	720	50	1
Totals first half	91	92	87	16	72	132	635	751	1,915	24	1,528	64	98	1,646	1,643	1,558	1,188	3,320	150	18
1910—January	2	4	6		24	7	91	108	271	4	191		42	281	281	222	216	720	50	2
February	14	18	13			14	55	51	134	4	177	2	2	222	221	213	120	696	22	3
March	10	20	12			15	63	62	191	2	221	2		241	240	277	145	720	75	1
April	16	14	17		24	13	57	61	313	1	195	12	14	241	241	246	216	720		2
May	8	6	7		24	4	73	100	225		198	11	4	320	320	275	185	120	25	5
June	8	7	5			8	82	104	232		208		4	240	240	251	208	204	78	4
Totals second half	58	69	60		72	61	421	486	1,366	11	1,190	27	66	1,545	1,543	1,484	1,090	3,180	249	17
Totals for year	149	161	147	16	144	193	1,056	1,237	3,281	35	2,718	91	164	3,191	3,186	3,042	2,278	6,500	399	35

TABLE No. 2.

Clothing issued to prisoners from July 1, 1909, to June 30, 1910.

Month.	Citizen's clothing.						Prisoners' clothing.															
	Coats	Vests	Pants	Shirts	Hats	Shoes	Coats	Vests	Pants	Boots	Shoes	Slippers	Hickory shirts	Drawers	Undershirts	Shirts	Caps	Socks	Blankets	Beds	Yards of bed-ticking	Repairs
1909.																						
July	19	20	21	4	17	21	110	137	316	------	235	6	10	249	244	226	195	788	22	20	94	563
August	19	18	18	4	17	17	82	91	284	------	211	1	11	250	246	229	119	611	10	11	53	526
September	24	29	25	4	23	28	104	128	280	------	235	6	10	290	290	248	215	649	15	24	112	469
October	15	18	15	1	19	19	116	126	328	6	318	4	10	336	338	310	246	721	24	69	324	491
November	8	10	9	2	14	16	113	131	258	6	196	13	11	223	223	259	194	587	32	22	103	448
December	15	13	12	4	12	9	104	133	312	6	225	4	11	259	253	258	223	688	40	20	94	508
Totals first half	101	108	100	19	102	110	629	746	1,778	18	1,420	34	63	1 607	1 594	1,530	1,192	4,044	143	166	780	3,005
1910.																						
January	3	4	3	3	8	7	86	103	307	------	224	2	12	274	273	246	191	689	18	57	268	574
February	8	14	8	1	13	14	79	81	275	3	202	3	17	241	245	249	167	616	69	44	209	548
March	15	15	16	4	15	15	87	64	230	4	202	4	37	247	246	253	173	541	80	38	177	701
April	9	15	9	------	3	4	69	76	101	2	91	17	12	276	274	255	212	712	20	40	188	654
May	12	13	17	2	5	8	76	83	372	------	239	5	7	313	314	262	222	327	16	20	94	545
June	12	13	13	------	6	4	82	85	331	------	249	4	13	275	275	260	152	313	40	32	150	637
Totals second half	59	74	66	10	50	52	479	492	1,616	9	1,207	35	98	1,626	1,627	1,525	1,117	3,198	243	231	1,086	3,659
Totals for year	159	182	166	29	152	162	1,108	1 238	3,391	27	2 627	69	161	3,233	3,221	3,055	2,309	7,242	386	397	1,866	6,664

TABLE No. 3.

Miscellaneous Issues from July 1, 1909 to June 30, 1910.

Month.	Chloride of lime, bbls.	Coal oil, tanks	Gross of matches	Family brooms	Mill brooms	Lamp chimneys, No. 1	Lamp chimneys, No. 2	Lamp burners, No. 1	Lamp burners, No. 2	Gross lamp wicks, No. 1	Gross lamp wicks, No. 2	Mop handles	Toilet paper, pkgs.	Writing paper, reams	Envelopes	Penholders	Gross of pens	Bottles of ink	Bars of sapolio	Papers of needles	Skein thread, boxes	Scrubbing brushes	Gross shoe laces
1909—July	4	6	80	----	----	----	72	----	----	½	½	2	3	3	1,000	12	1	3	----	----	----	----	2
August	5	8	100	----	----	72	144	----	----	½	½	2	4	3	1,500	12	1	3	72	50	----	8	2
September	5	6	80	48	24	72	144	----	----	½	½	2	3	----	----	12	----	----	----	25	----	12	12
October	4	6	80	----	----	----	144	72	72	½	½	2	1	1	2,000	12	1	6	72	----	----	----	12
November	1	10	80	36	18	----	144	----	----	½	½	2	4	3	1,500	12	1	----	----	----	----	----	----
December	5	9	60	12	----	----	144	----	----	½	½	2	----	3	1,000	12	1	1	----	----	----	----	12
Totals first half	23	45	480	96	42	144	792	72	72	3	3	12	15	13	7,000	72	5	13	144	75	----	20	40
1910—January	2	11	85	48	18	72	144	----	144	½	½	2	----	3	1,500	12	1	----	72	----	----	----	24
February	3	8	70	----	----	72	144	----	72	½	½	2	4	5	1,500	12	1	----	72	75	----	----	48
March	4	6	70	48	18	72	144	----	----	½	½	2	----	5	1,000	12	1	----	----	50	----	----	----
April	4	8	65	----	----	72	144	----	72	½	½	2	1	5	1,000	12	1	----	----	50	48	----	24
May	5	8	90	36	18	----	144	----	----	½	½	2	1	5	2,000	12	1	4	----	25	----	----	----
June	5	7	70	----	----	----	----	----	72	½	----	2	2	----	----	12	1	1	----	50	----	----	----
Totals second half	23	48	450	132	54	288	720	----	360	3	2½	12	8	23	7,000	72	6	5	144	250	48	----	96
Totals for year	46	93	930	228	96	432	1,512	72	432	6	5½	24	23	36	14,000	144	11	18	288	325	48	20	136

TABLE No. 4.

Second-hand Clothing Used in Discharging of Prisoners from July 1, 1909, to June 30, 1910.

Month.	No. of prisoners discharged.	Coats	Vests	Pants	Shirts	Hats	Shoes	Undershirts	Drawers	Socks	Amount.
1909—July	47	28	27	26	43	30	26	34	34	14	$202 76
August	37	18	19	19	33	20	18	18	15	11	134 84
September	56	32	27	31	52	33	28	28	28	12	213 84
October	42	27	24	27	41	23	23	37	38	20	190 12
November	40	32	30	31	38	26	24	31	32	14	210 66
December	36	21	23	24	32	24	27	23	23	8	170 36
Totals first half	257	158	150	158	239	156	136	171	170	79	$1,122 58
1910—January	35	32	31	32	32	27	28	29	29	12	$217 18
February	45	37	31	37	44	32	31	38	37	13	250 60
March	38	23	23	22	34	23	23	28	23	9	168 35
April	42	33	27	33	42	39	38	40	40	8	251 22
May	39	27	26	25	37	34	31	36	36	8	210 00
June	49	37	36	36	49	43	45	42	42	11	289 59
Totals second half	248	189	174	185	238	198	196	213	207	61	$1,387 34
Totals for year	505	347	324	343	477	354	332	384	377	140	$2,509 92

Number of prisoners discharged	505
Total amount of rebate to State	$2,509 92
Average rebate on each prisoner	4 97

RESIDENT PHYSICIAN'S REPORT.

To Hon. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

SIR: I have the honor of submitting herewith an annual report, in tabular form, of the Medical Department for the sixtieth fiscal year ending June 30, 1909.

Respectfully submitted,

WAID J. STONE, M.D.,
Resident Physician.

TABLE No. 1.

Diseases treated at hospital for each month during fiscal year ending June 30, 1909.

Diseases.	1908.						1909.						Total
	July	August	September	October	November	December	January	February	March	April	May	June	
Abscess, psoas										1	1	1	3
Abscess, right scapula region	1												1
Abscess, right axilla			1										1
Abscess, right ear								1	1				2
Abscess, rectal					1								1
Abscess, cervical gland	1	1											2
Abrasion, left ankle									1	1			2
Aderitis								1	1				2
Amputation, toe					1								1
Amputation, finger		2	2			2	2	2				6	16
Amputation, right thigh, upper one-third						1	1						2
Anaemia, secondary								1					1
Aortic and mitral regurgitation	1	1	1	1									4
Albuminuria											1	1	2
Appendicitis, acute												1	1
Asthma						1	1					1	3
Asthma, cardiac								1	1			1	3
Auto-intoxication	16	17	17	9	12	14	7	9	3	4	6	10	124
Bronchitis	1		2	5	3	2	3	1	1	2		2	22
Bronchitis, chronic	2	1	1	1									5
Burns, second degree								2					2
Colitis	2	1	1		1	1	1	1					8
Contusion, leg	1		1	1				1					4
Conjunctivitis	1	1						2	2				5
Cystitis		3	1	1	2	1							8
Cellulitis		2											2
Cyst, merhomian												2	2
Caries, inferior maxilla			1										1
Contusion, back												1	1
Circumcision				1	1		1			1			4
Carcinoma, prostatic		1	1	1	1	1	1	1	1	1	1	1	11
Debility	3	2	2	1	2	2	1	1	1				15
Dysentery	2	2										4	8
Dyspepsia, nervous												1	1
Diabetes								1	1	1	1	1	5
Erysipelas	1											1	2
Enteritis	1												1
Enteritis, gastro									1				1
Epilepsy										1			1
Extirpation, cervical gland	1	1	1	1	1	1			1	1	1	1	10
Extirpation, tubercular gland										1			1
Extirpation, tubercular gland, left axilla			1										1
Extirpation, tubercular gland, right axilla	1	1	2	1	1	1	1	1	1	1	1	1	13
Fracture, nasal bone		1											1
Fracture, rib				1									1
Fracture, left olecranon				1	1	1	1	1					5
Fracture, Imp. left tibia					1	2	2	2	1	1			9
Fracture, Inf., maxillary								1	1	1		1	4
Fracture, Pott's	1												1
Fracture, right hand	1												1
Fracture, C. C. right fibula and tibia				1	1			1					3
Fracture, C. C. nose								1					6
Fracture, left tibia, impacted				1									1
Gastritis	1		1		1	2	1					6	12
Hyperchlorhydria	1	2	2										5
H. P. D., symptoms of	4	1	3	4	6	4	4	5	8	6	6	6	57
Hysteria	1												1

TABLE 1—*Diseases treated at hospital for each month during fiscal year ending June 30, 1909—Continued.*

Disease.	1908.						1909.						Total
	July	August	September	October	November	December	January	February	March	April	May	June	
Hernia inguinal			1	1	1	1	1	1					6
Hæmorrhoidectomy			1										1
Hypochondriasis				1									1
Hemorrhoids					1	1							2
Herpez zoster					1			1					2
Herpez						1							1
Hernia										1		1	2
Hydrocele												1	1
Insanity	1	1	1	1	1	1							6
Inanition		1		1									2
Indigestion								1		2			3
Locomotor ataxia	1	1	1	1	1	1	1	1	1	1	1	1	12
Lumbago		4		1	2					1			8
La grippe					1	2	1	14	7	8			33
Laryngitis								2	1				3
Malaria	1		1	1	1		1		1	2		1	9
Malingerer	1			1	1							1	4
Malnutrition					1	1		3	3	1			9
Measles							1	9	13	6			29
Nephritis chronic	3	2	2	2	2	2	2	2	2	2	2	2	25
Necrosis of femur		1											1
Neuralgia		1						2					3
Optic neuritis							1	1	1	1	1		5
Observation							2						2
Paralysis	1	1	1										3
Pleurisy	1	1	2		1		1					1	7
Poisoning, ptomaine		2											2
Poisoning, oak					1	1							2
Poisoning, lead												1	1
Pyonephrosis			2	2	1	1	1	1	1	1			10
Prolapsus recti						1	1						2
Pneumonia									4	8		1	13
Rheumatism	2	1	1		1	5	3	3	2			2	21
Removal of uvula						1							1
Retinitis									1				1
Senility	1	2	2	2	3	3	3	3	2	2			23
Sprain, right knee	1												1
Sprain, back			1	1									2
Sprain, ankle	1											1	2
Syncope			1		1	1	1	1					5
Tuberculosis	12	10	13	12	12	12	11	14	14	14	11	9	144
Tonsilitis	3				2	5	1			2		1	14
Tachycardia	1	1		1									3
Tuberculosis, hip joint			1	1	1	1	1	1	1	1		1	9
Tordicollis							1						1
Ulcers, leg												2	2
Ulcers, cornea			1										1
Varicocele												1	1
Wound, lacerated cheek												1	1
Wound, lacerated one-third finger, hand					1								1
Wound, scalp									1				1
Wound, right shoulder		1											1
Wound, punctured nose and scalp											1		1
Wound, lacerated right elbow	2	1											3
Wound, leg, femur	1												1
Wound, leg and hand				1	1								2
Wound, right forearm					1								1
Wound, right hand									1				1
Wound, right foot									1				1
Total	77	71	73	61	75	77	61	97	88	78	33	77	861

TABLE No. 2.

Number and Names of Prisoners who Died, with Date and Cause of Death.

No.	Name.	Diagnosis.	Date.
22625	Robert Marten	Tuberculosis pulmonalis	July 6, 1908
20715	J. Mahatch	Tuberculosis pulmonalis	July 9, 1908
17076	J. Gregory	Tuberculosis pulmonalis	July 16, 1908
21978	L. Dabner	Execution	July 31, 1908
21985	John Siemsen	Execution	July 31, 1908
22560	J. B. DaMonte	Chronic myocarditis, aortic and mitral regurgitation	Aug. 22, 1908
22085	Albitre Delfini	Execution	Aug. 28, 1908
22881	C. Borsei	Execution	Sept. 11, 1908
17491	J. S. Cude	Hypostatic pneumonia, senility, chronic interstitial nephritis	Sept. 15, 1908
19202	Ah Yuen	Tuberculosis and senility	Dec. 11, 1908
22314	Ah Tow	Cerebral meningitis	Dec. 11, 1908
23131	T. P. Fallon	Execution	Jan. 8, 1909
22608	D. F. Meskil	Septicæmia	Jan. 25, 1909
23175	Chas. Baldesar	Execution	Jan. 29, 1909
22630	J. C. Riley	Chronic myocarditis and intertitial nephritis	Feb. 12, 1909
23140	S. Markham	Secondary anæmia	Feb. 20, 1909
21495	L. J. Frooman	Cerebral and spinal concussion; shock	Mar. 5, 1909
22814	A. Ludaff	Tuberculosis pulmonalis, acute Bright's disease	Mar. 7, 1909
23223	Wm. Whalen	Chronic myocarditis and interstitial nephritis	Mar. 27, 1909
21186	W. Bohard	Tuberculosis pulmonalis	Apr. 7, 1909
20517	C. A. Bell	Cardiac failure, epilepsy	Apr. 11, 1909
21510	Annie Juanita	Tuberculosis pulmonalis	Apr. 30, 1909
23249	Tom Bacon	Tuberculosis pulmonalis	May 7, 1909
11463	H. C. Kelsey	Chronic nephritis and senility	June --, 1909

TABLE No. 3.

Number of deaths each month with classified totals.

Cause.	1908.						1909.						Total
	July	August	September	October	November	December	January	February	March	April	May	June	
Cardiac failure, epilepsy										1			1
Cerebral meningitis						1							1
Cerebral and spinal concussion, shock									1				1
Chronic myocarditis, aortio and mitral regurgitation		1											1
Chronic myocarditis, chronic interstitial nephritis								1	1				2
Execution	2	1	1				2						6
Hypostatic pneumonia and interstitial nephritis			1										1
Septicæmia							1						1
Secondary anæmia								1					1
Tuberculosis and senility						1							1
Tuberculosis pulmonalis	3								1	2	1		7
Chronic nephritis and senility												1	1

TABLE No. 4.

Executed during the fiscal year ending June 30, 1909.

No.	Name.	Crime.	Date.
21978	Louis E. Dabner	Murder in first degree	July 31, 1908
21985	John Siemsen	Murder in first degree	July 31, 1908
22085	A. Delfini	Murder in first degree	Aug. 28, 1908
22881	C. Borsi	Murder in first degree	Sept. 11, 1908
23131	T. Fallon	Murder in first degree	Jan. 8, 1909
23175	Chas. Baldesar	Murder in first degree	Jan. 29, 1909

TABLE No. 5.

Surgical Cases.

	1908.						1909.						Totals
	July	August	September	October	November	December	January	February	March	April	May	June	
Accident, amputation of finger		2	2			2	2	2				6	16
Accident, amputation of toe	1												1
Amputation, right thigh, upper third					1								1
Curetting, tubercular hip				1									1
Curetting, neck		1											1
Contusion, right leg	1												1
Circumcision				1	1		1			1			4
Curetting, injury right elbow	1												1
Dislocation, left shoulder									1				1
Extirpation of tubercular gland, neck										1			1
Extirpation of tubercular gland, left axilla			1										1
Extirpation of tubercular gland, right axilla			2										2
Extirpation of cervical gland										1			1
Fracture, left tibia impacted				1									1
Fracture, skull									1				1
Fracture, right tibia and fibula, comp., middle third									1				1
Fracture, inferior maxillary								1					1
Fracture, right tibia and fibula, C. C.				1									1
Fistula, ani				1							1		2
Hæmorrhoidectomy			1										1
Herniotomy											1		1
Hydrocele												1	1
Incised wound, hand				1									1
Wound, lacerated finger		1		1									2
Wound, lacerated cheek												1	1
Wound, lacerated face							1						1
Wound, lacerated arm				1									1
Laparotomy					1								1
Minor cases not admitted to hospital	15	18	16	26	22	20	19	16	24	29	32	37	274
Removal of uvula						1			2				3
Resection, right ankle					1								1
Varicocele												1	1
Totals	18	22	22	34	25	23	23	19	29	32	34	46	328

TABLE No. 6.

Résumé of Work in Medical Department for the fiscal year ending June 30, 1909.

	1908.						1909.						
	July	August	September	October	November	December	January	February	March	April	May	June	Total
Calls on physician	2,442	3,163	2,375	3,080	2,167	2,344	2,744	2,572	2,484	2,604	3,250	2,648	31,873
Daily average	102	105	99	103	91	98	88	107	103	108	108	110	102
Visited in cells	69	90	66	90	28	37	70	84	65	35	39	27	700
Daily average	3	3	3	3	2	2	2	3	3	1	1	1	2
Excused from work	174	254	209	357	135	83	38	189	157	170	225	195	2,186
Daily average	7	8	9	12	6	3	1	8	6	7	8	8	7
Patients admitted	35	44	34	36	34	30	31	62	42	39	43	47	477
Patients discharged	33	47	37	29	26	36	31	60	56	37	46	49	487
Monthly deaths	5	2	2	------	------	2	3	2	3	3	1	1	24

RESIDENT PHYSICIAN'S REPORT.

FOR SIXTY-FIRST FISCAL YEAR.

San Quentin, June 30, 1910.

Hon. John E. Hoyle, *Warden of State Prison of San Quentin, Cal.*

Sir: I have the honor of submitting herewith an annual report, in tabular form, of the Medical Department for the sixty-first fiscal year ending June 30, 1910.

Respectfully submitted.

WAID JAS. STONE, M.D.,
Resident Physician.

TABLE No. 1.

Diseases Treated at Hospital for each Month during fiscal year ending June 30, 1910.

Diseases.	1909.						1910.						Total
	July	August	September	October	November	December	January	February	March	April	May	June	
Abrasions and contusion of chest and leg										1	1		2
Amputation of thigh							1						1
Amputation of fingers			1	3	1	2					1		8
Aortic and mitral insufficiency									1	1	1	1	4
Asthma				1						1	1	1	4
Attempted suicide by strangulation											1		1
Auto-intoxication	8	7	2	3	8	5	11	5	9	5	7	13	83
Bradocardia				1									1
Bright's disease	1	1	1	1	1	1	1	1	1	2	1	1	13
Bronchitis, acute	1	1	1	2	2	2	3	2	2	1	1	2	20
Bronchitis, chronic	1	1	1	1	1	1	1	1	1	1	1	1	12
Burns, second degree										1	1		2
Carbuncle				1	1								2
Carcinoma of face					1	1	1	1	1	1			6
Carcinoma, prostate gland	1												1
Cardiac asthma	1	1	1	1	1								5
Circumcision	1												1
Cerebral hemorrhage												1	1
Colic			1	2									3
Conjunctivitis	1					1		1	2	1			6
Convalescent	1	1	1	1	1	1	1	1	1	1	1	1	12
Cystitis						1	1	1	1	1			5
Cholecystitis					1	1	1	1.	1	1			6
Debility		1	1	1	2	3	2	2	3	3	2	1	21
Dementia		1			1	1							3
Diabetes	1	1	1	1	1	1	1	1	1	1			10
Dysentery	42	62	83	11	3						4	2	207
Endocarditis					1	1							2
Enteritis	1	1	1	1	1	1	1	1	1	1	1	1	12
Epilepsy	1				1								2
Fecal impaction			1	1									2
Fistula in ani											1	1	2
Fracture inferior maxilla	1	1	2	2	1	1	1	1	1				11
Fracture left clavicle		1	1	1									3
Fracture nasal bones						1							1
Fracture skull, comp. com.					1								1
Fracture phananges							1		1	1	1		4
Gastritis, acute	3		2	3		2	1		1	2	1		15
Gastritis, chronic		1	1	1	1	1	1						6
Gastro enteritis		1			1								2
Gonorrhœa						1							1
Hemoptysis									1	1	1		3
Hemorrhoids									2	1			3
Hernia										1	2	1	4
Herniotomy							1	1					2
H. P. D. of symptoms	2		1	5	2	2	4	6	11	7	6	6	52
Hydrocele	1	1	1										3
Insect bites	1		1			2			1				5
Jaundice									1				1
La grippe	2	1			2	2	3	2	5	97	11	2	127
Lead poisoning	1												1
Leg ulcers	1	1	1	1	1						1	1	7
Locomotor ataxia	1	1	1	1	1	1	1	1	1				9
Lumbago	2	3	1	2	3	1	1					1	14
Malaria		5	8	3			2		3		1	2	24

TABLE No. 1—*Continued.*

Diseases Treated at Hospital for each Month during fiscal year ending June 30, 1910.

Diseases.	1909.						1910.						Totals
	July	August	September	October	November	December	January	February	March	April	May	June	
Malingerer				1							1		2
Measles									1	1			2
Myocarditis, chronic	2	2											4
Necrosis left femur				1	1	1	1						4
Necrosis of tissue, gluteal region							1	1					2
Nephritis, chronic	1	1	1	1	1	1	1	1	1	1	1	1	12
Neuralgia			1	1						1	2		5
Neurasthenia						1							1
Orchitis	2	1			1	1							5
Paraplegia				1									1
Phlegmon	1	1											2
Phlebitis											1	1	2
Pneumonia			1				1	1			1		4
Poison oak												1	1
Removal of uvula					1								1
Removal of testicle			1	1									2
Rheumatism, acute	1	3	3	3	5	5	3	3	2	2	2		32
Rheumatism, chronic				1	1	1	1	1	1	1	1	1	9
Senility	5	4	3	7	6	4	3	4	6	6	7	5	60
Sprained back	1			1									2
Sprained ankle											1	1	2
Syncope							1	1					2
Syphilis			1										1
Tachycardia			1	1									2
Tænia saginata				1	2		2						5
Torticollis					1								1
Tonsilitis						1	1	3	2				7
Tubercular gland of neck	1	1	1	1	2	2	2	2	2	2	1	1	18
Tubercular gland of right axilla	1	1	1	1	1	1	1	1	1	1	1		11
Tubercular peritonitis	1							1	1	1	2	1	7
Tuberculosis, pulmonalis	9	8	7	6	7	6	7	9	12	9	9	9	98
Tuberculosis of joint	1	1	1	1	1	2	2	1	1	1	1	1	14
Typhoid fever		1	1			1	1						4
Varicocele	1	1	1										3
Varioloid											1		1
Wounds, incised		1		2			1	1	1		1	2	9
Wounds, lacerated	1	2	1	1		3	1		2	1		2	14
Wounds, contused	1			1		2			1		1		6
Wounds, infected												1	1

TABLE No. 2.

Number and Names of Prisoners who Died, Cause of Death and Date.

No.	Names.	Diagnosis.	Date.
22118	M. Rodriguez	Tuberculosis pulmonalis	July 3, 1909
20624	J. Meyers	Tuberculosis pulmonalis	July 10, 1909
23196	J. Barraras	Tubercular meningitis	July 12, 1909
21085	Wm. Sullivan	Carcinoma of the prostate gland	July 27, 1909
22150	J. Sullivan	Hemorrhage of the bowel	Aug. 3, 1909
18831	O. Emerson	Myocarditis, chronic	Aug. 6, 1909
20016	M. Carrasher	Apoplexy	Aug. 7, 1909
18228	Wm. Jones	Acute cardiac dilatation	Aug. 17, 1909
21555	Chue Sue	Aortic and mitral regurgitation	Aug. 21, 1909
23221	Wm. Thomas	Atrophic cirrhosis of liver	Aug. 21, 1909
23002	F. L. Morrill	Septicæmia	Aug. 23, 1909
22996	P. Adams	Pneumonia	Sept. 27, 1909
23164	Claude Noel	Syphillis	Sept. 28, 1909
19007	H. T. Hunt	Nephritis, chronic	Oct. 16, 1909
21800	H. Mayer	Fracture of skull, comp. com	Nov. 1, 1909
23494	G. W. Laverty	Aortic and mitral insufficiency	Nov. 9, 1909
22506	P. Teser	Myocarditis, chronic	Nov. 17, 1909
21706	A. Luchetti	Tuberculosis of the bowel	Nov. 23, 1909
23948	H. O. Hansen	Endocarditis	Dec. 1, 1909
23592	A. Menghetti	Carcinoma of the stomach	Jan. 6, 1910
23560	Chas. Preston	Tuberculosis septemic	Jan. 14, 1910
22719	D. Segunda (female)	Tuberculosis pulmonalis	Jan. 20, 1910
21632	C. Botkin (female)	Cerebral softening	Mar. 7, 1910
21216	Jackson	Anæmia, pernicious	Apr. 5, 1910
23770	J. J. York	Tuberculosis pulmonalis	Apr. 8, 1910
22815	H. Perry	Carcinoma of the brain	Apr. 21, 1910
22511	Geo. Capella	Tuberculosis pulmonalis	May 15, 1910
20566	C. J. Crowley	Tuberculosis pulmonalis	May 26, 1910
22348	Chas. Blake	Pneumonia	June 7, 1910
22959	P. Gallego	Tuberculosis pulmonalis	June 12, 1910
24266	E. Wirth	Execution	June 17, 1910

TABLE No. 3.—*Number of deaths each month with classified totals.*

Cause.	1909.						1910.						Total
	July	August	September	October	November	December	January	February	March	April	May	June	
Acute cardiac dilatation		1											1
Anæmia, pernicious										1			1
Aortic and mitral regurgitation		1											1
Aortic and mitral insufficiency					1								1
Apoplexy		1											1
Atrophic cirrhosis of liver		1											1
Carcinoma of the brain										1			1
Carcinoma of the prostate gland	1												1
Carcinoma of stomach							1						1
Cerebral softening									1				1
Endocarditis						1							1
Execution												1	1
Fracture of skull, comp. com.					1								1
Hemorrhage of the bowel		1											1
Myocarditis, chronic		1			1								2
Nephritis, chronic				1									1
Pheumonia			1									1	2
Septicæmia		1											1
Syphillis			1										1
Tubercular meningitis	1												1
Tuberculosis of the bowel					1								1
Tuberculosis pulmonalis	2						1			1	2	1	7
Tuberculosis systemic							1						1

TABLE No. 4.

Executed during fiscal year ending June 30, 1910.

No.	Name.	Crime.	Date.
24266	Ernest Wirth	Murder in the first degree	June 17, 1910.

TABLE No. 5.

Surgical cases.

Cause.	1909.						1910.						Total
	July	August	September	October	November	December	January	February	March	April	May	June	
Aspiration of abdominal cavity	----	1	----	----	----	----	----	----	----	----	----	----	1
Amputation of fingers	----	----	1	2	----	2	----	----	1	1	1	2	10
Amputation of thigh	----	----	----	----	----	1	----	----	----	----	----	----	1
Circumcision	1	----	----	----	----	----	----	----	----	----	----	----	1
Extraction of bullet from neck	----	1	----	----	----	----	----	----	----	----	----	----	1
Fistula in ani	----	----	----	----	----	----	----	----	----	----	1	----	1
Fracture of skull, comp. com.	----	----	----	----	1	----	----	----	----	----	----	----	1
Hæmorrhoidectomy	----	----	----	----	----	----	----	----	1	----	----	----	1
Herniotomy	----	----	----	----	----	----	1	----	----	----	----	----	1
Laparotomy	----	----	----	----	----	----	----	----	1	----	----	----	1
Plastic operation on cheek	----	----	----	----	----	----	----	----	----	----	1	1	2
Removal of testicle	----	----	1	----	----	----	----	----	----	----	----	----	1
Trephining, skull	1	----	----	----	----	----	----	----	----	----	----	----	1
Wounds.													
Extensive incised	----	----	----	----	----	----	----	----	----	----	----	1	1
Extensive lacerated	----	----	1	----	----	----	----	----	----	----	----	1	2
Minor miscellaneous operations not admitted to hospital	21	18	25	30	15	22	12	28	25	18	22	15	251

TABLE No. 6.

Résumé of Work in Medical Department for fiscal year ending June 30, 1910.

	1909.						1910.						Totals
	July	August	September	October	November	December	January	February	March	April	May	June	
Calls on physician	3,473	2,812	2,860	3,540	2,771	2,703	3,575	2,612	2,690	3,708	2,691	2,608	36,043
Daily average	133	108	109	132	106	104	137	100	103	142	104	100	115
Visited in cells	45	50	56	64	63	28	33	25	24	76	25	26	515
Daily average	2	2	2	2	2	1	1	1	1	3	1	1	1+
Excused from work	343	140	78	114	144	35	70	45	50	95	124	152	1,390
Daily average	13	5	3	4	5	1	3	2	2	4	5	6	4+
Patients admitted	73	61	86	40	32	18	34	14	30	123	33	34	578
Patients discharged	69	61	89	40	36	18	28	16	22	122	46	29	576
Monthly deaths	4	7	2	1	4	1	3	......	1	3	2	3	31

CHAPLAIN'S REPORT.

SAN QUENTIN, CAL., June 30, 1910.

To HON. JOHN E. HOYLE, *Warden of State Prison at San Quentin, Cal.*

SIR: I herewith present my report as Resident Chaplain of State Prison at San Quentin for the six months ending June 30, 1910.

My appointment to this position having occurred late in 1909, I find myself able to report the work of the department under my supervision for a period extending over only the latter half of the fiscal year, the months of November and December having been spent in familiarizing myself with the conditions, equipment, and duties pertaining to the office and work of the chaplain.

THE LIBRARY AND BINDERY.

We have added to the library by purchase 300 volumes and by gift 73 volumes. Among the new additions are: The New International Encyclopedia, Webster's International Dictionary, Library of Valuable Knowledge (25 volumes, containing scientific knowledge presented in popular form), a Cyclopedia of the Building Trades in 6 volumes designed for the use of mechanics, the remainder being largely standard fiction. We have also increased slightly our magazine literature, which is bound and issued promptly upon the completion of successive volumes every three months.

Many packages of magazines and periodicals have been received from philanthropic persons or organizations who in this way manifest their interest in the mental and moral welfare of our inmates.

There have been 11,056 issues of books, an average of 1,842 a month. 63 per cent of the issues were romance and fiction. We have in the library at present 4,111 volumes, including 427 bound volumes of magazines. It should be stated, however, that this number includes much dead material, many books which never leave the shelves.

In the bindery connected with the library we have repaired 145 books, rebound 168, bound 45 volumes of magazines, and have made 12 blank books and 3,952 tablets for the various departments of the prison.

THE SCHOOL.

I found it desirable to reorganize the prison school and did so in January, the result being that at the present time we have a school that is doing reasonably satisfactory work, approximating the work of a regular eighth-grade school. In selecting pupils, I have personally canvassed the prison population under 24 years of age, giving the preference to the younger and more deficient educationally. We now have a school of over 100 pupils, with three prisoners teaching, practically exhausting the available space in the chapel. A few are compelled to attend, but the majority are willing, and some are enthusiastic students. We are indebted to the State Superintendent of Instruction and the State Board of Examiners for a supply of school books sent in response to our request.

We have also had in operation for a few months a night school in one of the large cell rooms, where a class of twenty-two meets for two hours each evening with one of our teachers in charge. These students are beyond the age limit fixed for the day school, and we have gradually congregated them in this room at their own request for the purpose of study. We contemplate an early extension of this plan to other rooms until we have provided as far as possible for all who desire to study the elemental branches while in prison.

RELIGIOUS SERVICES.

The chaplain conducts religious services in the chapel the first, third and fifth Sundays of each month, and also in the women's department. A bible class is convened in the chapel immediately after the preaching service for all who care to remain.

Catholic services have been conducted regularly on the second and fourth Sundays by the visiting chaplain, Rev. Father Phillips, or one of his assistants.

Visitors, representing various religious, philosophic, and benevolent organizations, address the prisoners at regular intervals.

Rev. Dr. Charles R. Brown of Oakland, in response to an invitation from the chaplain, visited us on Lincoln's birthday and delivered his famous lecture on "Abraham Lincoln." Mrs. Ballington Booth paid us a visit in March, addressing 1,000 men, the chapel being crowded twice in the effort to accommodate all the men anxious to hear her. Attorney L. T. Hatfield and Judge A. G. Burnett of Sacramento spoke in the chapel on a recent Sunday.

The large voluntary attendance upon all the religious services is gratifying.

OTHER ACTIVITIES.

In addition to the supervision of the varied interests referred to above, together with frequent visits to the hospitals, occasional calls upon the condemned men, and burial of the dead, I have given considerable time to personal interviews with the prisoners. The new men now have an opportunity of meeting the chaplain on the day of their arrival before taking their places definitely in the ever changing prison population. I have had personal talks in my office with over 600 men during these six months.

The chaplain's correspondence increases somewhat in volume from month to month, and I am responding frequently to invitations to publicly discuss prison conditions and kindred themes in different parts of the State. This is done with the conviction that as the public comes to a fuller understanding of our problem and of the efforts that are being put forth for the reformation of delinquents, there will be a heartier and more sympathetic coöperation in advancing the progressive plans of the present administration of prison affairs.

Respectfully submitted.

WILLIAM H. LLOYD,
Resident Chaplain.

BIENNIAL REPORT

OF THE

WARDEN FOLSOM STATE PRISON

FOR THE

SIXTIETH AND SIXTY-FIRST FISCAL YEARS,
ENDING JUNE 30, 1910.

REPORT OF WARDEN.

FOR THE SIXTIETH AND SIXTY-FIRST FISCAL YEARS.

State Prison at Folsom, July 1, 1910.

To the Honorable, the State Board of Prison Directors.

Gentlemen: I herewith submit my report of the operation of the State Prison at Folsom for the sixtieth and sixty-first fiscal years, which are fully set forth in the report of the Clerk, General Overseer, Captain of the Guard, and Physician.

To the officers and guards and all other employees of this institution I extend grateful thanks for the loyal support they have given my administration.

As our relations as Board of Prison Directors and Warden have been so uninterruptedly pleasant, I wish to make grateful acknowledgment to you, the Board of Directors, one and all, for the strong support and kindly consideration you have always evinced in your treatment of me, and I am constrained to say that your support and coöperation is the secret of the successful management of this prison for the sixtieth and sixty-first fiscal years.

Respectfully submitted.

W. H. REILLY,
Warden.

CLERK'S REPORT.

FOR THE FISCAL YEAR ENDING JUNE 30, 1909.

STATE PRISON AT FOLSOM, July 1, 1909.

To the Honorable, the State Board of Prison Directors.

GENTLEMEN: I herewith submit for your consideration a full statement of the financial transactions of the State Prison at Folsom for the sixtieth fiscal year ending June 30, 1909.

Respectfully submitted.

J. E. HOSIER,
Clerk.

TABLE

Cash Receipts during the Sixtieth

	1908.				
	July.	August.	September.	October.	November.
Cash balance, fifty-ninth fiscal year	$1,385 20				
Appropriation support, fifty-ninth fiscal year	6,977 50				
Appropriation salaries, fifty-ninth fiscal year	6,214 00				
Appropriation support, sixtieth fiscal year		$7,671 88	$6,884 80	$7,421 36	$7,432 04
Appropriation salaries, sixtieth fiscal year		6,864 27	6,822 89	6,929 50	6,411 60
State treasury—prison fund	1,670 44	2,824 16	1,061 98	1,002 29	2,929 29
United States government				513 20	
House rentals	138 33	134 00	134 00	136 00	136 00
Switching cars	103 00	26 00	103 00	89 00	37 00
Forage	48 50	37 00	58 25	68 00	62 75
Appropriation for additional cells		68 38	71 71		180 93
Appropriation for new wall		71 74	77 56		103 35
Appropriation for Folsom state hospital	573 10	435 52	562 41	400 38	847 30
Rock-crusher revolving fund	14 48		45 01	11 91	40 91
Appropriation for repairs		8 15	8 10		
Officers and guards' laundry sales	64 19	51 43	57 16	45 76	44 14
Shop work—General overseer's department	7 10	30	25	6 10	2 85
Shop work—Quarry department	50	4 82	1 82	2 97	2 93
Southern Pacific Company, switching					
Rebates—Discharged prisoners	3 90		3 55		
Telephone calls	45	50	45	55	50
Sales—Meat	104 67	114 48	114 31	108 19	117 68
Coal	18 36	12 60	11 70	16 20	29 52
Wood					
Coal oil	6 00	65	4 55	5 20	5 85
Vegetables	08		50		
Ice	24 25	39 43	1 00		2 25
Drugs	15 25	8 55	7 55	10 30	7 95
Shoe mending	18 35	17 50	15 15	10 70	19 05
Ammunition	4 50	4 80	3 30	6 15	6 15
Meals		8 00	6 75	1 75	4 00
Miscellaneous	1 92	60	4 15	5 00	3 67
Rubble granite	65 00	4 50			
Decomposed granite	7 00	16 50	7 00	7 00	3 50
Totals	$17,466 07	$18,425 76	$16,068 90	$16,797 51	$18,431 31

No. 1.

fiscal year ending June 30, 1909.

	1909.						Total.
December.	January.	February.	March.	April.	May.	June.	
----------	----------	----------	----------	----------	----------	----------	$1,385 20
----------	----------	----------	----------	----------	----------	----------	6,977 50
----------	----------	----------	----------	----------	----------	----------	6,214 00
$7,398 80	----------	$7,299 33	$7,298 19	$14,485 69	$7,415 20	----------	73,307 29
6,313 00	$6,377 41	6,413 21	6,442 51	6,876 27	6,493 00	$6,626 03	72,566 72
5,179 50	549 99	1,420 42	1,394 80	1,556 77	3,427 16	581 75	23,598 65
----------	473 55	462 55	----------	----------	405 00	405 00	2,258 80
138 67	141 00	141 00	141 00	141 00	141 00	141 00	1,663 00
34 00	27 00	4 00	20 00	30 00	11 00	30 00	523 00
70 75	66 00	67 50	67 50	69 50	51 50	52 02	717 27
----------	90 14	161 60	100 29	121 14	198 45	----------	992 64
----------	12 74	71 07	26 52	4 22	42 99	----------	410 13
666 35	564 44	535 73	535 81	720 00	795 72	804 77	7,441 53
42 72	----------	11 44	35 33	66 51	26 83	----------	295 14
----------	----------	150 03	271 23	22 15	35 63	----------	495 29
53 34	35 61	33 90	33 35	44 47	38 98	52 42	554 75
1 55	5 00	----------	10	40	----------	5 20	28 85
59	25	41	63	33	1 88	2 77	19 90
----------	----------	----------	8 00	----------	----------	----------	8 00
1 00	4 40	----------	10 95	24	116 95	----------	140 99
1 15	2 32	75	80	----------	1 55	15	9 17
122 68	119 48	114 92	117 52	126 59	117 42	128 63	1,406 57
24 67	48 50	31 52	34 08	27 58	20 98	14 58	290 20
----------	----------	----------	5 00	----------	15 00	7 50	27 50
6 37	16 32	11 18	12 74	14 04	12 09	5 85	100 84
25	----------	40	----------	26	----------	55	2 04
50	50	50	50	1 28	5 75	17 28	93 24
5 25	10 75	6 45	9 20	7 16	6 00	7 45	101 86
14 20	14 65	17 35	22 75	27 60	19 10	16 25	212 65
4 80	4 50	2 70	3 45	5 85	8 35	4 55	59 10
1 25	1 00	2 00	1 00	2 25	4 75	50	33 25
2 39	4 79	1 15	60	59	1 39	8 78	35 03
----------	----------	----------	----------	12 00	----------	----------	81 50
10 50	----------	----------	3 50	3 50	3 50	3 50	65 50
$20,094 29	$8,570 34	$16,960 55	$16,597 35	$24,365 39	$19,417 08	$8,922 56	$202,117 10

TABLE

Cash Disbursements during the Sixtieth

	1908.				
	July.	August.	September.	October.	November.
Merchandise and supplies, fifty-ninth fiscal year	$4.900 15				
Salaries, fifty-ninth fiscal year	6,034 00				
Merchandise, and supplies, sixtieth fiscal year		$4,493 74	$4,623 23	$4,577 78	$5,001 21
Salaries, sixtieth fiscal year		6,133 87	6,098 05	6,198 00	6,231 60
State treasury—prison fund	1,237 15	999 28	878 95	1,144 63	1,211 91
Discharged prisoners	159 60	208 10	178 35	146 50	232 45
Telephone	10 35	12 30	12 65	11 94	11 14
Telegraph					
Expressage	13 00	17 40	15 25	13 90	10 15
Traveling expense	40 00	19 95	44 70		23 90
Advertising	27 55				
Religious services	80 00	80 00	80 00	80 00	80 00
Postage		100 00			
Ranch rental	100 00				
Freight	234 82	356 19	495 02	516 72	425 44
Hay					
Wood		1,131 25		175 00	255 00
Coal, coke, and charcoal	44 10	966 10	453 86	385 67	451 37
Experting books		64 80			64 80
Allowance board and lodging	553 00	550 40	544 84	551 50	531 35
Returning parole violators					
Escaped prisoners					
Furniture and fixtures	28 75	988 98			
San Francisco office	68 73	112 50	37 50	92 50	79 31
Prisons directors		27 45	62 30	51 55	69 45
Fuel oil		337 50		337 93	
Macadam					
Electric light rental	150 00				
Parole officer	73 05	70 00	71 90	72 10	72 60
Flannels and cassimere	596 07	212 78	540 18	675 70	623 07
Lumber	51 50		43 65	41 17	557 54
Discharged prisoners' clothing	246 60		92 72	78 86	108 55
Leather and findings	327 35	348 76	380 83	393 04	345 61
Tobacco and cigarette papers	205 12	232 42	275 48	247 23	250 40
Ice			118 94	80 99	
Hardware	450 86	396 90	388 15	272 69	625 22
Forage	220 53	184 68	80 80	171 19	421 09
Beds and bedding		39 78	41 12	28 85	
New electric light plant					
Ordnance			32 95		
United States government					
Drugs and medicines	93 06	135 30	96 33	111 58	103 91
Executions					
Paints and oils	71 43	48 09	25 81	27 80	84 37
Stationery	58 07	68 16	51 94	36 20	42 63
Electrical supplies	100 83	39 16	2 25	7 74	273 30
Photographic materials	83 02		67 32	115 51	
Totals	$16,258 69	$18,575 84	$15,835 07	$16,644 28	$18,187 39
Cash on hand June 30, 1909					
Grand total					

No. 2.

Fiscal Year ending June 30, 1909.

	1909.						Totals.
December.	January.	February.	March.	April.	May	June.	
							$4,900 15
							6,034 00
$4,844 09		$4,798 00	$4,484 57	$9,492 95	$4,270 39		47,058 96
6,143 00	$6,177 41	6,200 66	6,242 51	6,114 50	6,293 00	$6,423 06	68,255 66
1,347 83	828 70	1,439 54	1,297 62	1,014 70	1,235 21	1,543 13	14,178 65
340 45	374 28	203 40	379 94	175 92	189 30	97 96	2,686 25
9 05		10 85	10 30	9 85	13 05		111 48
		4 75		1 28	1 43		7 46
15 40		18 30	12 90	7 75	25 85		149 90
28 75		8 45	23 90	18 25	43 90		251 80
							27 55
80 00	100 00	100 00	100 00	100 00	100 00	100 00	1,080 00
100 00					150 00		350 00
			100 00				200 00
451 68		189 74	255 44		642 09		3,568 15
		110 31	416 36	177 95	364 97		1,069 59
255 00							1,816 25
647 03		433 26	468 57	647 58	1,130 15		5,357 69
			89 45				219 05
548 00	549 99	547 03	547 76	561 77	553 25	581 75	6,621 34
			51 50	126 61	270 65		448 82
					231 61		231 61
59 15							1,076 88
93 95	37 50	50 40	62 95	92 50	118 00	37 50	883 34
10 00		12 25	17 50	32 70	88 95		372 15
338 00				343 73	343 60		1,700 76
			16 00				16 00
							150 00
73 20	62 50	75 60	76 50	84 35	106 75	62 50	901 05
1,056 43		523 07	349 31	1,374 99	436 12		6,387 72
226 56		42 84	25 79	32 95	199 54		1,221 54
228 62		99 38	50 40	329 39	72 20		1,306 72
364 34		377 45	374 75	714 35	273 36		3,899 84
205 02		214 18	320 90	574 59	200 19		2,725 53
59 68							259 61
253 63		478 57	317 29	834 35	815 11		4,832 77
354 18		271 72	292 12	625 66	296 25		2,918 22
178 71		43 16	34 71	176 93	40 45		583 71
2,004 32							2,004 32
32 95		280 16	250 95	32 95			629 96
					405 00		405 00
70 43		149 24	89 61	213 48	47 12		1,110 06
					31 90		31 90
46 51		74 59	151 45	28 88	70 75		629 68
22 61		55 77	65 74	65 69	25 04		491 87
87 56		47 46	61 74	39 69	35 12		694 85
3 45		65 10	45 76	82 15	79 20		541 51
$20,579 58	$8,130 38	$16,925 93	$17,084 29	$24,131 50	$19,200 50	$8,845 90	$200,399 35
							1,717 75
							$202,117 10

TABLE

Statement of Maintenance and Salary Expenditures from July

Warden.	Fiscal years.	Average population.
Charles Aull	1889-1890	623.00
Charles Aull	1890-1891	678.66
Charles Aull	1891-1892	695.08
Charles Aull	1892-1893	709.08
Charles Aull	1893-1894	689.55
Charles Aull	1894-1895	791.63
Charles Aull	1895-1896	890.42
Charles Aull	1896-1897	900.63
Charles Aull	1897-1898	907.70
Charles Aull	1898-1899	890.42
Charles Aull	To Dec. 1, 1899	848.24
Thomas Wilkinson	Dec. 1, 1899-July 1, 1900	840.28
Thomas Wilkinson	1900-1901	769.53
Thomas Wilkinson	1901-1902	765.75
Thomas Wilkinson	1902-1903	783.19
Thomas Wilkinson	To Dec. 1, 1903	781.58
Archibald Yell	Dec. 1, 1903-July 1, 1904	839.46
Archibald Yell	1904-1905	996.84
Archibald Yell	1905-1906	1,073.16
Archibald Yell	1906-1907	1,024.19
Archibald Yell	July 1, 1907-Feb. 15, 1908	984.12
W. H. Reilly	Feb. 15, 1908-July 1, 1908	1,007.65
W. H. Reilly	1908-1909	1,014.43

*Salaries for sixtieth fiscal year

To Folsom state hospital, salaries paid out and reimbursed

Net salaries

Net per capita salaries

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*Net, $73,689 66; net $72 64.

No. 3.

1, 1899, to July 1, 1909, Tabulated from Cash Expenditures.

Total maintenance.	Per capita maintenance.	Salaries.	Per capita salaries.	Total per capita per annum.	
$75,491 84	$121 17	$40,577 94	$65 13		$186 30
76,049 94	112 05	42,701 64	62 92		174 97
76,557 91	110 14	42,501 92	61 15		171 29
85,549 37	120 65	45,831 90	64 63		185 28
65,989 06	95 70	47,531 00	68 93		164 63
74,440 67	94 03	47,523 60	60 03		154 06
71,467 68	80 26	48,899 75	54 92		135 18
70,119 39	77 86	39,718 44	55 20		133 06
72,812 73	80 22	50,661 17	55 81		136 03
76,253 04	85 64	50,035 15	56 19		141 83
32,383 42	38 18	19,739 17	23 28	61 46	142 53
40,499 95	48 20	27,628 40	32 87	81 07	
69,700 64	90 64	47,607 04	61 86		152 42
64,136 70	83 75	47,475 78	62 00		145 75
77,252 56	98 64	47,485 31	60 63		159 27
31,874 78	40 79	21,852 45	28 08	68 87	165 17
51,437 22	61 27	29,407 96	35 03	96 30	
102,775 14	103 10	53,448 70	53 61		156 71
94,414 84	87 97	66,921 65	62 35		150 32
95,184 92	92 94	72,212 57	71 48		164 42
66,531 74	67 61	49,963 98	50 77	118 38	187 65
44,614 02	44 28	25,188 82	24 99	69 27	
110,651 04	109 07	*76,569 66	*75 48		184 55

-------------------------------- $76,569 66

-------------------------------- 2,880 00

-------------------------------- $73,689 66

-------------------------------- $72 64

TABLE No. 4.

Per Capita Maintenance from July 1, 1908, to July 1, 1909.

	Inventory July 1, 1908.	Issues 1908-1909.	Total.	Inventory July 1, 1909.	Balance gross cost.	Gross cost per capita per diem.
Warden's mess	$52 33	$895 17	$947 50	$29 39	$918 11	$0.00248
Officers and guards' mess	1,609 34	10,758 99	12,368 33	1,608 21	10,760 12	.02906
Prison mess	4,662 61	42,686 95	47,349 56	4,560 40	42,789 16	.11556
Hospital	2,440 08	1,252 02	3,692 10	2,748 96	943 14	.00255
Commissary	865 96	203 26	1,069 22	961 86	107 36	.00029
General overseer	5,801 12	1,084 21	6,885 33	5,792 48	1,092 85	.00295
Captain of the guard	11,823 85	2,210 46	14,034 31	13,148 61	885 70	.00239
Turnkey	26,266 98	19,170 77	45,437 75	25,141 47	20,296 28	.05483
Engineer	6,436 50	976 60	7,413 10	6,430 84	982 26	.00265
Prison laundry	482 93	1,941 83	2,424 76	514 68	1,910 08	.00516
Stock	6,987 00	3,025 73	10,012 73	8,239 72	1,773 01	.00478
Warden's office	608 52	59 64	668 16	600 62	67 54	.00018
Clerk's office	1,308 70	232 74	1,541 44	1,308 55	232 89	.00062
San Francisco office		964 07	964 07		964 07	.00260
Prison directors		412 40	412 40		412 40	.00111
Quarry	7,020 89	4,182 94	11,203 83	7,878 49	3,325 34	.00898
Light	7,282 00	7,884 96	15,166 96	12,198 01	2,968 95	.00802
Expense		1,858 22	1,858 22		1,858 22	.00502
Repairs		770 25	770 25		770 25	.00208
Furniture and fixtures	4,127 58	675 18	4,802 76	4,675 50	127 26	.00034
Ice plant	3,733 43	303 72	4,037 15	3,726,65	310 50	.00083
Commissary sale		1,658 24	1,658 24		1,658 24	.00448
Farm	4,112 99	2,068 26	6,181 25	4,570 62	1,610 63	.00435
Wooden buildings	28,098 20	90	28,099 10	28,072 90	26 20	.00007
Officers and guards' laundry	227 00	280 02	507 02	235 70	271 32	.00073
Sewage plant	13,479 82	1,361 07	14,840 89	13,479 33	1,361 56	.00368
Escaped prisoners		799 56	799 56		799 76	.00216
Officers and guards' residences		10 46	10 46		10 46	.00002
Railroad material	2,500 48	199 83	2,700 31	2,490 08	210 23	.00056
Salaries		72,883 90	72,883 90		72,883 90	.19684
Discharged prisoners		2,495 66	2,495 66		2,495 66	.00674
Locomotive account		1,637 18	1,637 18		1,637 18	.00442
Allowance board and lodging		5,229 96	5,229 96		5,229 96	.01412
Parole officer		921 25	921 25		921 25	.00248
Freight and cartage		965 11	965 11		965 11	.00260
Totals	$139,928 31	$192.061 51	$331,989 82	$148,413 07	$183.576 75	$0.49573

Gross cost		$183,576 75
Sales and earnings:		
Officers and guards' mess sales (meals)	$33 25	
Shop work—general overseer	30 45	
Ammunition sales to officers and guards	59 10	
Turnkey's sales (clothing)	37 27	
Forage sales to officers and guards	717 27	
Drugs and medicines to officers and guards	102 11	
Quarry sales—blacksmithing	1,404 96	
Commissary sales to officers and guards	2,168 07	
Rental of state houses	1,663 00	
Washing for officers and guards	554 75	
Quarry sales (granite, earth, etc.)	3,093 75	
Support of United States prisoners	1,664 50	
Switching cars by locomotive	520 00	
Stock rental	1,431 12	
		13,479 60
Net cost of maintenance		$170,097 15

Average daily number of prisoners	1,014.43
Average net per capita per diem	45.939 cents.

TABLE No. 5.

Assets and Liabilities, July 1, 1909.

AVAILABLE ASSETS:			
Cash on hand		$1,717 75	
Cash balance, state treasury (prison fund)		5,800 61	
Cash balance, state treasury (general fund)—			
For salaries	$6,008 23		
For support	14,588 81		
For repairs	4 24		
		20,601 28	
Due from sundry debtors		3,039 87	
			$31,159 51
LIABILITIES:			
Unpaid supply claims for June, 1909 (repair fund)		$3 90	
Unpaid supply claims for June, 1909 (general fund)		7,361 56	
Unpaid supply claims for June, 1909 (prison fund)		4,510 46	
Unpaid board and lodging for June, 1909 (prison fund)		580 00	
Unpaid salaries for June, 1909 (general fund)		6,539 56	
Amount due sundry creditors		19 62	
			19,015 10
Excess of available assets			$12,144 41
PERMANENT ASSETS:			
Warden's mess		$29 39	
Officers and guards' mess		1,608 21	
Prison mess		4,560 40	
Hospital		2,748 96	
Commissary		961 86	
General overseer		5,792 48	
Captain of the guard		13,148 61	
Turnkey		25,141 47	
Engineer		6,430 84	
Ice plant		3,726 65	
Light		12,198 01	
Officers and guards' laundry		235 70	
Prison laundry		514 68	
Farm		4,570 62	
Stock		8,239 72	
Warden's office		600 62	
Clerk's office		1,308 55	
Quarry		7,878 49	
Furniture and fixtures		4,675 50	
Prison improvements		671,466 53	
Wooden buildings		28,072 90	
Sewage plant		13,479 33	
Merchandise		8,444 93	
Railroad track		2,490 08	
Real estate		15,000 00	
			$843,324 53
Total excess of assets			$855,468 94

TABLE No. 6.

Trial Balance of the Sixtieth Fiscal Year ending June 30, 1909.

	Trial balance June 30, 1909.		Inventory June 30, 1909.	State prison at Folsom June 30, 1909.		Trial balance July 1, 1909.	
	Dr.	Cr.		Dr.	Cr.	Dr.	Cr.
Cash	$1,717 75					$1,717 75	
Warden's mess	947 50		$29 39		$918 11	29 39	
Officers and guards' mess	12,368 33		1,608 21		10,760 12	1,608 21	
Officers and guards' mess sales		$33 25		$33 25			
Prison mess	47,349 56		4,560 40		42,789 16	4,560 40	
Hospital	3,692 10		2,748 96		943 14	2,748 96	
Hospital—Sales account		102 11		102 11			
Commissary	1,069 22		961 86		107 36	961 86	
Ammunition account		59 10		59 10			
General overseer	6,885 33		5,792 48		1,092 85	5,792 48	
General overseer—Sales account		30 45		30 45			
Captain of the guard	14,034 31		13,148 61		885 70	13,148 61	
Turnkey	45,437 75		25,141 47		20,296 28	25,141 47	
Turnkey—Sales account		37 27		37 27			
Engineer	7,413 10		6,430 84		982 26	6,430 84	
Engineer—Sales account		121 00		121 00			
Prison laundry	2,424 76		514 68		1,910 08	514 68	
Stock rental		1,431 12		1,431 12			
Stock	10,012 73		8,239 72		1,773 01	8,239 72	
Forage account		717 27		717 27			
Warden's office	668 16		600 62		67 54	600 62	
Clerk's office	1,541 44		1,308 55		232 89	1,308 55	
Prison directors, San Francisco office	964 07				964 07		
Prison directors	412 40				412 40		
Parole officer	921 25				921 25		
Officers and guards' residences	10 46				10 46		
Quarry	11,203 83		7,878 49		3,325 34	7,878 49	
Quarry department sales		1,404 96		1,404 96			
Light	15,166 96		12,198 01		2,968 95	12,198 01	
Farm	6,181 25		4,570 62		1,610 63	4,570 62	
Expense	1,858 22				1,858 22		
Commissary sales		509 83		509 83			
Repairs	770 25				770 25		
Rental account		1,663 00		1,663 00			

Rock crusher	43 30					43 30	
Switching account	10 00					10 00	
Warden's house (furniture and fixtures)	4,802 76		4,675 50		127 26	4,675 50	
United States of America	409 50					409 50	
Prison Improvements	671,466 53		671,466 53			671,466 53	
Ice plant	4,037 15		3,726 65		310 50	3,726 65	
Sundry debtors	13 00					13 00	
Wooden buildings	28,099 10		28,072 90		26 20	28,072 90	
Officers and guards' laundry	507 02		235 70		271 32	235 70	
Officers and guards' laundry sales		554 75		554 75			
Sewage plant	14,840 89		13,479 33		1,361 56	13,479 33	
Merchandise	8,444 93		8,444 93			8,444 93	
Escaped prisoners	799 56				799 56		
Freight and cartage	965 11				965 11		
State prison at Folsom		833,965 37			827,939 71		$827,939 71
Railroad material	2,700 31		2,490 08		210 23	2,490 08	
Real estate	15,000 00		15,000 00			15,000 00	
Rock-crusher surplus fund		4,424 17		4,424 17			
Salaries	72,883 90				72,883 90		
Sundry creditors		19,383 87					19,383 87
United States prisoners		1,664 50		1,664 50			
Discharged prisoners	2,495 66				2,495 66		
Allowance board and lodging	5,929 96				5,929 96		
Sundry officers and guards		6,539 56					6,539 56
State treasury prison fund	5,800 61					5,800 61	
Locomotive account	1,637 18				1,637 18		
Repairs fund		495 29		495 29			
Quarry sales		3,093 75		3,093 75			
Appropriation additional cells	112 75					112 75	
Appropriation new wall	66 10					66 10	
Folsom state hospital	539 34					539 34	
Southern Pacific Company	800 00					800 00	
Deceased prisoners' account		563 58		563 58			
General appropriation support sixtieth fiscal year		80,284 79		80,284 79			
General appropriation salaries sixtieth fiscal year		79,402 66		79,402 66			
B. F. Smith		1 24					1 24
V. M. Colt	329 93					329 93	
Sacramento Electric, Gas and Railway Company		18 38					18 38
San Quentin state prison	715 95					715 95	
Balance to the credit of the State prison at Folsom, June 30, 1909				833,965 37			
Totals	$1,036,501 27	$1,036,501 27	$843,324 53	$1,010,558 22	$1,010,558 22	$853,882 76	$853,882 76

TABLE No. 7.

Receipts from Farm for the fiscal year ending June 30, 1909.

Apples	1,300 pounds	Onions, dry	25 pounds
Apricots	4,000 pounds	Onions, green	16.000 pounds
Beans, string	1,200 pounds	Parsley	100 bunches
Beets	900 pounds	Peaches	6,000 pounds
Blackberries	500 pounds	Pears	620 pounds
Cabbage	8,700 pounds	Peas	50 pounds
Carrots	2,500 pounds	Peppers	334 pounds
Cauliflower	2,000 pounds	Plums	400 pounds
Chickens	100 dozen	Pork	10,030 pounds
Corn, green	2,757 dozen	Potatoes	180 pounds
Cucumbers	100 dozen	Pumpkins	335 pounds
Ducks	19 each	Radishes	450 dozen
Eggs	1,148 dozen	Rhubarb	100 pounds
Egg plant	145 pounds	Spinach	250 pounds
Figs	3,475 pounds	Squash	1,000 pounds
Grapes	9,000 pounds	Straw	8 tons
Garlic	10 pounds	Strawberries	25 gallons
Hay	75 tons	Tomatoes	4,000 pounds
Lettuce	175 dozen	Turnips	10,540 pounds
Melons, musk	207 dozen	Turkeys	10 each
Melons, water	55 each	Veal	1,874 pounds
Milk	12,834 gallons	Beef	8,425 pounds
Oranges	884 dozen		

TABLE No. 8.

Meals served at Officers and Guards' Mess during fiscal year ending June 30, 1909.

Month.	Regulars.	Visitors.	Sheriffs.	Hospital.	Cooks and waiters.	Lunches to guards.	Lunches to band.	Night guards.	Prisoners.	Total.
1908—July	4,746	93	20	186	1,170	620	166	530	172	7,703
August	4,779	57	28	186	1,209	620	154	532	141	7,706
September	4,608	85	26	292	1,170	600	128	510	152	7,571
October	4,725	66	56	310	1,209	620	128	527	118	7,759
November	4,512	35	32	300	1,170	600	160	510	90	7,409
December	5,686	30	25	310	1,209	620	128	527	93	7,628
1909—January	4,737	43	35	310	1,209	663	176	527	93	7,793
February	4,197	29	46	280	1,092	597	144	476	84	6,945
March	4,620	40	45	310	1,209	657	144	527	93	7,645
April	5,310	47	43	300	1,234	657	144	510	92	8,317
May	4,658	48	31	310	1,215	624	193	527	93	7,699
June	4,500	46	32	300	1,170	600	156	510	112	7,426
Totals	56,078	619	419	3,394	14,266	7,458	1,821	6,213	1,333	91,601

Net cost for year..........1908-09, $10,760.12. Number of meals furnished..........91,601. Average cost per meal..........$0.1174.

TABLE No. 9.

Rock-crusher Transactions.

CASH ASSETS AND LIABILITIES JULY 1, 1909.

Cash Assets.

Cash on hand July 1, 1909	$8,087 56	
Amount of revolving fund	2,775 83	
		$10,863 39
Due from sundry debtors—		
Suspense account	$14 82	
Sacramento-Rochdale Company	38	
Southern Pacific Company	1,118 62	
State prison at Folsom	12 00	
Henry Dehn	12 76	
Carroll & Nicholl	4 22	
N. E. Burres	14 57	
Turlock Lumber Company	27 22	
Silva & Bergtholdt	16 00	
Florin Supply Company	29 04	
M. Mattanovich	31 96	
Jenkins & Wells	95 00	
		1,376 59
		$12,239 98

Liabilities.

Due sundry creditors	$650 95	
Due for macadam prepaid—		
Elk Grove Vineyard Association	24 24	
County of Yolo, Cal.	02	
Robertson-Govan Company	36 00	
L. R. Mead	1 56	
John Hughes	105 86	
Clarke & Henery	127 90	
Burns & DaRoza	12 15	
James McGillivray	50 00	
Town of Dixon	18 32	
C. D. Shearer	12 11	
Woodhull & Cramer	42	
		$1,039 53
Cash assets available		$11,200 45

SALES AND DISPOSAL OF SALES PROCEEDS.

21,855 cars = $642{,}724\frac{800}{2000}$ ton = 1,285,448,800 pounds shipped.

129,998,480 pounds at 25 cents per ton		$16,249 82	
703,467,180 pounds at 30 cents per ton		105,521 74	
353,736,820 pounds at 35 cents per ton		61,904 70	
98,246,320 pounds at 40 cents per ton		19,649 27	
1,285,448,800 pounds		$203,325 53	
Sales other than macadam		75 60	
Cash rebates on supplies		1 05	
			$203,402 18
Deposited in revolving fund		$168,579 67	
Deposited in general fund		1,237 13	
Deposited in state prison at Folsom fund		24,509 81	
Cash on hand	$8,087 56		
Less macadam prepaid	388 58		
Net cash balance on hand		7,698 98	
Due for macadam sold		1,376 59	
			$203,402 18

TABLE No. 9—*Continued.*

Rock-crusher Transactions from June 10, 1896, to June 30, 1909.

COST OF ROCK-CRUSHING PLANT.

Cash received from general fund		$24,985 61	
Cash received from revolving fund		4,805 35	
			$29,790 96
Cash received from special appropriation—Von Geldern			344 80
Total cost of plant			$30,135 76

COST OF CRUSHING ROCK.

Rock-crusher expenditures and claims due June 30, 1897			$47,492 39
Inventory July 1, 1897			33,009 78
Cost of crushing $84,785\frac{305}{1000}$ tons of rock			$14,482 61
Cost per ton 1896-97	17.199 cents.		
Inventory July 1, 1897		$33,009 78	
Supply purchases to June 30, 1898		18,387 12	
			$51,396 90
Inventory July 1, 1898			34,834 55
Cost of crushing $79,996\frac{1}{4}$ tons of rock			$16,562 35
Cost per ton, 1897-98	20.7 cents.		
Inventory July 1, 1898		$34,834 55	
Supply purchases to June 30, 1899		9,088 53	
			$43,923 08
Inventory July 1, 1899			34,682 94
Cost of crushing $34,840\frac{5}{200}$ tons of rock			$9,240 14
Cost per ton, 1898-99	26 5 cents.		
Inventory July 1, 1899		$34,682 94	
Supply purchases to June 30, 1900		8,002 93	
			$42,685 97
Inventory July 1, 1900			34,448 13
Cost of crushing $32,748\frac{1}{200}$ tons of rock			$8,237 74
Cost per ton, 1899-1900	25.15 cents.		
Inventory July 1, 1900		$34,448 13	
Supply purchases to June 30, 1901	$9,804 40		
Less rebates on supplies	19 37		
		9,785 03	
			$44,233 16
Inventory July 1, 1901		$17,130 93	
Loss by fire June 20, 1901 (estimated)		17,097 20	
			34,228 13
Cost of crushing $45,217\frac{193}{200}$ tons of rock			$10,005 03
Cost per ton, 1900-01 (estimated)	22.13 cents.		
Supplies purchased to June 30, 1902		$8,866 71	
Inventory July 1, 1901		17,130 93	
Rebuilding account		6,441 06	
			$32,438 70
Inventory July 1, 1902			23,987 20
Cost of crushing $32,631\frac{85}{200}$ tons of rock			$8,451 50
Cost per ton, 1901-02	25.9 cents		

TABLE No. 9—*Continued.*

Inventory July 1, 1902		$23,987 20	
Supply purchases to June 30, 1903	$18,788 55		
Less rebates on supplies ($55.18 and $1.05)	56 23		
		18,732 32	
			$42,719 52
Inventory July 1, 1903			23,828 69
Cost of crushing 68,026$\frac{107}{200}$ tons of rock			$18,890 83
Cost per ton, 1902-03		27.77 cents.	
Inventory July 1, 1903		$23,828 69	
Supply purchases to June 30, 1904		14,566 11	
			$38,394 80
Inventory July 1, 1904			22,809 30
Cost of crushing 60,064$\frac{172}{200}$ tons of rock			$15,585 50
Cost per ton, 1903-04		25.95 cents.	
Inventory July 1, 1904		$22,809 30	
Supply purchases to June 30. 1905		15,958 10	
			$38,767 40
Inventory July 1, 1905			22,480 50
Cost of crushing 61,104$\frac{850}{2000}$ tons of rock			$16,286 90
Cost per ton, 1904-05		26.65 cents.	
Inventory July 1, 1905		$22,480 50	
Supply purchases to June 30, 1906		16,977 88	
			$39,458 38
Inventory July 1, 1906			22,749 34
Cost of crushing 53,193$\frac{1420}{2000}$ tons of rock			$16,709 04
Cost per ton, 1905-06		31.41 cents.	
Inventory July 1, 1906		$22,749 34	
Supply purchases to June 30, 1907		10,927 58	
			$33,676 92
Inventory July 1, 1907			23,283 44
Cost of crushing 40,988$\frac{1470}{2000}$ tons of rock			$10,393 48
Cost per ton, 1906-07		25.36 cents.	
Inventory July 1, 1907		$23,283 44	
Supply purchases to June 30, 1908		7,027 47	
			$30,310 91
Inventory July 1, 1908			23,444 69
Cost of crushing 30,793$\frac{780}{2000}$ tons of rock			$6,866 22
Cost per ton, 1907-08		22.29 cents.	
Inventory July 1, 1908		$23,444 69	
Supply purchases to June 30, 1909		8,729 87	
			$32,174 56
Inventory July 1, 1909			23,098 21
Cost of crushing 18,329$\frac{1540}{2000}$ tons of rock			$9,076 35
Cost per ton, 1908-09		49.52 cents.	

GROSS TOTALS.

Cost of crushing 642,724$\frac{800}{2000}$ tons of rock from June 10, 1896 to July 1, 1909			$160,787 69
Cost per ton		25.016 cents.	

TABLE No. 9—*Continued.*

PROFIT OF CRUSHING ROCK.

June 10, 1896 to July 1, 1909.

129,998,480	pounds sold at 25 cents per ton	$16,249 82		
703,467,180	pounds sold at 30 cents per ton	105,521 74		
353,736,820	pounds sold at 35 cents per ton	61,904 70		
98,246,320	pounds sold at 40 cents per ton	19,649 27		
			$203,325 53	
1,285,448,800	pounds crushed at 25.016 cents per ton		160,787 69	
	Total profit from June 10, 1896, to July 1, 1909			$42,537 84

TABLE No. 10.

Road Metal Crushed and Shipped from June 10, 1896, to June 10, 1909.

Months and years.	No. cars shipped	Size of crushed rock in pounds.			Total weight in pounds.	Value of crushed rock.			Total value.
		2½-inch.	1½-inch.	¾-inch.		25c. per ton.	30c. per ton.	35c. and 40c. per ton.	
1896—June	112	2,801,760	1,584,600	1,528,200	5,914,560	$739 32			$739 42
July	161	4,050.800	2,136,950	2,487,950	8,675,700	1,084 47			1,084 47
August	303	7,264,670	4,022,260	4,581,720	15,868,650	1,983 57			1,983 57
September	331	9,611,750	4,215,400	4,181,710	18,008,860	2,251 10			2,251 10
October	333	9,010,545	4,009,825	4,809,960	17,830,330	2,228 79			2,228 79
November	247	6,621,880	2,837,950	3,269,050	12,728,820	1,591 11			1,591 11
December	270	7,486,100	3,935,100	3,233,450	14.654,650	1,831 83			1,831 83
1897—January	189	5,143,850	2,642,800	2,239,860	10,026,510	1,253 32			1,253 32
February	88	1,927,460	1,289,400	1,212,260	4,429,120	553 64			553 64
March to 11th	20	477,150	311,600	272,600	1,061,350	132 67			132 67
March to 31st	118	1,889,760	2,663,680	1,773,800	6,327,240	778 22	$15 23		793 45
April	184	4,757.510	2,686,610	2,367,950	9.812,070	508 28	861 89		1,370 17
May	415	10,575.910	6,316,610	5,491,960	22,384,480	1,140 97	1,988 51		3.129 48
June	400	9,396.740	6,910.720	5,540,750	21,848,210	172 53	3,070 19		3,242 72
1897—July	285	6,767,490	4,701,290	4,023,810	15,492,590		2,323 89		2,323 89
August	284	6,533,100	4,744,750	3,978,160	15,256,010		2,288 42		2,288 42
September	328	8,663,700	4,206,750	4,393,370	17,263,820		2,589 57		2,589 57
October	342	9,239,410	5,206,800	4,420,710	18,866,920		2,830 04		2,830 04
November	350	9.282,100	5,433,350	4,834,560	19,550,010		2,932 50		2,932 50
December	332	7,374,000	6,313,600	4,574,150	18,261,750		2.739 26		2,739 26
1898—January	146	1,598,550	3,911,260	2,703,250	8,213,060		1,231 96		1,231 96
February	12	401,100	170,400	110.650	682,150		102 32		102 32
March	127	2,395,150	2,628,950	2,304,370	7,328,470		1,099 27		1,099 27
April	180	3,631,110	4,176,750	2,514,950	10,322,810		1,548 42		1,548 42
May	245	6,842,750	3,790,410	3 398,300	14,031,460		2,104 72		2,104 72
June	261	5,181,750	5,201,850	4,339,850	14,723,450		2,208 52		2,208 52
1898—July	106	1,494,900	1,932,000	2,221,450	5,648,350		847 26		847 26
August	69	1,956,400	110,450	1,780,100	3,846,950		577 06		577 06
September	103	1,318,250	3,430,950	1,177,310	5,926,510		888 97		888 97
October	167	2,934,850	2,960,000	3,646,450	9,541,300		1,431 21		1,431 21
November	129	2,265,950	3,206,650	1,816,450	7,289,050		1,093 38		1,093 38
December	40	225,850	1,173,150	861,500	2,260,500		339 09		339 09
1899—January	58	272,050	1,416,350	1,575,400	3,263,800		489 58		489 58
February	73	175,850	680,150	3,332,450	4,188,450		628 28		628 28
March	46	55,850	784,850	1,855.950	2,660,650		399 13		399 13

April	125	1,617,100	3,038,600	2,514,600	7,170,300		1,075 59		1,075 59
May	170	4,593,470	2,538,050	2,231,260	9,552,780		1,432 93		1,432 93
June	151	2,625,310	3,602,750	2,111,350	8,339,410		1,250 93		1,250 93
1899—July	53	479,350	1,150,000	1,248,950	2,878,300		431 73		431 73
August	60	1,005,050	996,870	1,365,160	3,367,080		505 08		505 08
September	86	2,482,500	919,600	1,523,500	4,925,600		738 87		737 87
October	52	610,200	1,186,350	1,132,380	2,928,930		439 34		439 34
November	113	1,939,600	2,970,560	1,797,750	6,707,910		1,006 22		1,006 22
December	131	2,516,010	3,164,110	2,279,950	7,960,070		1,194 02		1,194 02
1900—January	134	2,378,850	3,409,610	2,185,530	7,973,990		1,196 12		1,196 12
February	85	665,250	2,182,470	2,000,960	4,848,680		727 33		727 33
March	113	436,250	3,187,850	3,203,250	6,827,350		1,024 15		1,024 15
April	88	1,139 450	2,157,450	1,816,960	5,113,860		767 10		767 10
May	73	526,550	2,687,560	986,050	4,200,160		630 05		630 05
June	137	2,948,000	2,631,800	2,184,280	7,764,080		1,164 63		1,164 63
1900—July	172	2,847,800	4,368,700	2,219,000	9,435,500		1,415 36		1,415 36
August	151	3,280,400	3,609,200	1,640,650	8,530,250		1,279 53		1,279 53
September	165	3,539,550	3,639,700	2,031,000	9,210,250		1,381 55		1,381 55
October	194	4,166,450	4,850,810	1,780,900	10,798,160		1,619 74		1,619 74
November	193	2,830,200	5,599,300	2,016.480	10,445,980		1,566 87		1,566 87
December	167	825,750	6,473,440	1,939,550	9,238,740		1,385 86		1,385 86
1901—January	138	665,250	5,541,000	1,338 550	7,544,800		1,131 76		1,131 76
February	112	977,300	4,380,950	1,014,660	6,372,910		955 95		955 95
March	117	732,050	3,948,250	2,000,100	6,680,400		1,002 12		1,002 12
April	44	863,250	896,050	696,850	2,456,150		368 45		368 45
May	85	1,368,850	2,436,100	873,450	4,678,400		701 76		701 76
June	96	966,970	3,105,650	971,770	5,044,390		756 70		756 70
1901—November	15		705,850	118,600	824,450		123 67		123 67
December	200	3,913,400	4,955,700	2,616,150	11,485,250		1,722 79		1,722 79
1902—January	169	1,007,600	6,559,250	2,175,900	9,742,750		1,461 47		1,461 47
February	138	462,650	5,300,850	2,393,000	8,156,500		1,223 51		1,223 51
March	166	1,823,450	4,670,170	3,172,650	9,666,270		1,450 01		1,450 01
April	112	602,250	3,692,800	2,182,830	6,477,880		971 69		971 69
May	226	1,406,700	11,225,300	2,565,950	15,197,950		2,279 71		2,279 71
June	52	241,200	2,643,950	826,650	3,711,800		556 78		556 78
1902—July	202	232,000	10,872,560	3,437,750	14,542,310		2,181 37		2,181 37
August	203	188,800	13,336,150	1,892,830	15,417,780		2,312 71		2,312 71
September	158	112,900	11,612,100	532,400	12,257,400		1,838 62		1,838 62
October	143	719,800	8,754,300	1,043,250	10,517,350		1,577 63		1.577 63
November	160	1,874,500	6,760,000	1,805,050	10,389 550		1,558 44		1,558 44
December	167	1,106,100	8,323,850	1,588,700	11,018,650		1,652 80		1,652 80
1903—January	98	100,000	5 466,310	778,050	6,344,360		951 71		951 71
February	154	618,000	8,099,500	1,127,650	9,845,150		1,476 81		1,476 81
March	178	2,204,950	7,566,200	2,077,600	11,848,750		1,777 40		1,777 40
April	222	647,050	11,123,900	2,374,400	14,145,350		2,121 82		2,221 82

TABLE No. 10—*Road Metal Crushed and Shipped from June 10, 1896, to June 30, 1909.—Continued.*

Months and years.	No. cars shipped	Size of crushed rock, in pounds.			Total weight in pounds.	Value of crushed rock.			Total value.
		2¼-inch.	1½-inch.	¾ inch		25c per ton.	30c. per ton.	35c. and 40c. per ton.	
1903—May	178	2,488,850	5,944,100	3,158,870	11,591,820		$1,738 82		$1,738 82
June	130	1,065,650	4,619,550	2,449,400	8,134,600		1,220 20		1,220 20
1903—July	198	3,497,450	5,277,950	3,366,350	12,141,750		1,821 33		1,821 33
August	198	3,366,650	4,461,740	3,799,350	11,627,740		1,744 20		1,744 20
September	130	1,842,350	3,412,250	2,500,850	7,755,450		1,163 36		1,163 36
October	161	1,634,050	4,633,750	3,094,600	9,362,400		1,404 43		1,404 43
November	101	109,050	3,505,550	2,102,050	5,716,650		857 55		857 55
December	112	68,000	3,792,300	2,457,250	6,317,550		947 65		947 65
1904—January	168	2,937,300	2,962,150	3,482,300	9,381,750		1,407 32		1,407 32
February	155	2,935,600	2,680,500	2,814,550	8,430,650		1,264 61		1,264 61
March	200	2,558,850	4,635,050	3,745,550	10,939,450		934 92	$823 69	1,758 61
April	274	4,187,200	5,538,820	4,702,730	14,428,750			2,525 05	2,525 05
May	226	3,740,850	4,978,250	3,511,740	12,230,840			2,140 42	2,140 42
June	212	3,952,350	4,511,490	3,332,900	11,796,740			2,064 43	2,064 43
1904—July	168	2,303,000	4,498,250	2,580,650	9,381,900			1,641 85	1,641 85
August	148	2,054,350	3,289,050	2,882,950	8,226,350			1,439 64	1,439 64
September	201	3,370,650	4 237,450	3,581,000	11,189,100			1,958 10	1,958 10
October	245	3,602,600	5,505,620	4,792,900	13,901,120			2,432 72	2,432 72
November	143	2,298,390	3,311,900	2,293,850	7,904,140			1,383 25	1,383 25
December	162	229,200	5,465,050	4,538,650	8,232,900			1,440 75	1,440 75
1905—January	126	803,750	3,133,840	2,189,000	6,126,590			1,072 17	1,072 17
February	170	1,817,780	2,898,650	3,379,460	8,095,890			1,416 81	1,416 81
March	212	3,045,350	3,855,300	3,246,550	10,147,200			1,775 75	1,775 75
April	233	3,876,750	4,689,450	4,142,850	12,709,050			2,224 27	2,224 27
May	217	5,858,050	5,406,450	2,622,900	15,887,400			2,430 32	2,430 32
June	185	5,064,560	2,850,150	4,492,500	12,407,210			2,171 29	2,171 29
1905—July	170	3,847,000	2,643,300	4,579,900	11,070,200			1,937 33	1,937 33
August	192	5,772,160	2,255,520	4,903,650	12,931,330			2,263 00	2,263 00
September	120	3,242,800	2,353,750	2,257,350	7,853,900			1,374 45	1,374 45
October	119	2,428,810	2,473,800	2,847,150	7,749,760			1,356 25	1,356 25
November	136	3,130,650	2,747,750	2,794,300	8,642,700			1,517 74	1,517 74
December	158	3,791,500	3,161,250	2,938,500	9,891,250			1,730 98	1,730 98
1906—January	69	710,650	2,390,850	1,366,700	4,468,200			781 94	781 94
February	151	1,053,750	5,440,800	3,511,855	10,006,405			1,751 13	1,751 13
March	169	1,393,600	4,804,050	4,807,650	11,005,300			1,925 93	1,925 93

April	118	2,851,150	2,228,500	3,233,200	8,312,850			1,454 76	1,454 76
May	77	2,229,375	1,436,300	1,796,100	5,461,775			955 81	955 81
June	126	4,484,300	2,218,800	2,260,650	8,963,750			1,568 68	1,568 68
1906—July	154	5,826,410	1,100,200	2,588,800	9,515,410			1,665 20	1,665 20
August	192	5,974,630	1,576,600	3,350,150	10,901,380			1,907 74	1,907 74
September	111	3,008,780	1,624,550	2,225,750	6,859,080			1,200 34	1,200 34
October	155	4,847,650	1,993,850	3,324,000	10,165,500			1,778 97	1,778 97
November	96	2,658,100	1,213,250	1,996,250	5,867,600			1,026 85	1,026 85
December	121	4,077,400	1,668,900	2,328,550	8,074,850			1,413 11	1,413 11
1907—January	86	3,169,150	1,171,300	1,314,950	5,655,400			989 72	989 72
February	72	2,425,150	1,034,850	1,204,400	4,664,400			816 30	816 30
March	85	3,277,650	1,057,800	1,436,400	5,771,850			1,010 08	1,010 08
April	37	1,209,750	515,450	761,950	2,487,150			435 26	435 26
May	103	3,962,850	1,258,050	1,727,200	6,948,100			1,215 93	1,215 93
June	75	2,504,050	1,085,800	1,476,900	5,066,750			886 70	886 70
1907—July	45	1,497,950	592,900	924,100	3,014,950			602 99	602 99
August	42	1,945,850	323,950	433,100	2,702,900			540 58	540 58
September	71	2,347,850	804,550	1,087,550	4,239,950			847 99	847 99
October	77	2,613,850	953,150	959,800	4,526,800			905 36	905 36
November	68	2,401,900	632,900	851,150	3,885,950			777 19	777 19
December	61	1,694,700	961,250	882,650	3,538,600			707 72	707 72
1908—January	27	314,000	678,300	474,800	1,467,100			293 42	293 42
February	60	488,500	2,016,950	999,750	3,505,200			701 04	701 04
March	148	2,352,750	4,570,500	2,735,700	9,658,950			1,931 79	1,931 79
April	138	3,398,100	3,053,500	2,583,500	9,035,100			1,807 02	1,807 02
May	137	4,380,200	1,892,000	2,450,230	8,722,430			1,744 49	1,744 49
June	103	4,276,400	1,406,650	1,605,800	7,288,850			1,457 77	1,457 77
1908—July	32	1,095,100	574,300	570,100	2,239,500			447 90	447 90
August	105	2,673,000	2,481,600	2,287,800	7,442,400			1,488 48	1,488 48
September	89	2,918,000	1,699,800	1,603,900	6,221,700			1,244 34	1,244 34
October	38	1,351,600	820,440	684,100	2,856,140			571 23	571 23
November	34	1,276,300	758,700	536,600	2,571,600			514 32	514 32
December	31	853,800	636,700	744,200	2,234,700			446 94	446 94
1909—January	21	503,700	498,600	457,300	1,459,600			291 92	291 92
February	30	804,600	741,200	604,800	2,150,600			430 12	430 12
March	35	1,074,300	929,200	679,100	2,682,600			536 52	536 52
April	31	1,298,700	304,400	700,600	2,303,700			460 74	460 74
May	67	2,437,300	766,400	1,091,400	4,295,100			859 02	859 02
June	3	72,800	67,300	61,800	201,900			40 38	40 38
Totals	21,855	416,501,050	515,775,155	353,172,595	1,285,448,800	$16,249 82	$105,521 74	$81,553 97	$203,325 53

TABLE No. 11.

Destination of Road Metal Crushed and Shipped from June 11, 1896, to June 30, 1909.

Cars.	Destination.	Weight, in pounds.
9	Antioch	561,720
15	Alder Creek	932,650
74	Armstrong Switch	4,949,450
37	Acampo	1,870,250
33	Alameda Point	2,166,000
6	Alta	336,000
91	Auburn	5,157,350
3	Benicia	194,400
9	Ben Ali	479,850
8	Brighton	477,750
9	Buhach Switch	506,950
2	Bruceville	99,450
20	Bakersfield	1,127,100
71	Byron	4,285,450
7	Bogue's Spur	390,350
10	Clipper Gap	721,350
2	Ceres	120,300
7	Colfax	402,750
7	Camino	520,200
2	Cornwall	118,150
6	Dutch Flat	336,900
3	Davisville	207,600
86	Dixon	5,475,200
5	Dredge	320,000
113	Elk Grove	7,015,300
23	Elves	1,479,400
2	Elmwood	116,250
6	El Pinal	442,800
2	Emery	126,600
	Forest Grove (wagon load)	16,000
44	Florin	2,607,450
118½	Folsom	7,378,850
26	Folsom State Hospital	1,435,000
11	Fair Oaks	820,000
4	Galt	242,800
22	Guthrie Station	1,347,350
16	Grass Valley	969,400
8	Gelston	453,750
771	Homestead	40,544,740
68	Knights Landing	3,753,050
164	Lodi	9,733,835
3	Dos Palos	185,300
1	Lomo	52,600
3	Lathrop	189,950
1,230	Marysville	69,207,810
116	Modesto	6,810,750
6	McConnell	340,100
3	Mills	150,000
14	Madera	823,550
27	Martinez	1,545,900
2	Marcuse	123,200
2	Manlove	153,400
1	Manteca	67,000
1	Mayhew	40,000
75	Napa	4,183,150
10	Newcastle	677,450
4	Oswald	217,850
3	Orchard Switch	110,000
8	Ostrom	445,250
4	Oakland	333,800
58	Placerville	3,600,350
10	Perkins	558,880
5	Port Costa	275,450

TABLE No. 11—*Continued.*

Destination of Road Metal Crushed and Shipped from June 11, 1896, to June 30, 1909.

Cars.	Destination.	Weight in pounds.
1	Pinogrande	80,000
32	Roseville	1,679,200
2	Reed's Station	115,205
9	Richmond	581,400
3	Ripon	167,400
8,523	Sacramento	496,560,170
6,028	Stockton	345,399,295
3,282	Southern Pacific Company	213,830,680
1	Suisun	48,750
111	State Prison at Folsom	5,242,000
2	Swingle	133,900
74	Sonora	4,945,550
3	Tudor	171,300
21	Turlock	1,215,550
1	Towle	55,350
13	Vacaville	714,850
8	Vallejo	445,750
9	Wheatland	538,300
69½	Woodlawn	3,990,930
2	Westspur	95,300
12	Woodbridge	761,400
133	Yuba City	7,626,840
3	Urgon	218,550
21,855	Total	1,285,448,800

PHYSICIAN'S REPORT.

State Prison at Folsom, June 30, 1909.

To the Honorable, the State Board of Prison Directors.

Sir: I herewith submit report of prisoners treated by the Resident Physician of the State Prison at Folsom for the year ending June 30, 1909, showing all transactions in the Medical Department.

Respectfully submitted.

A. E. INGERSOLL, M.D.,
Resident Physician.

TABLE No. 1.

Number of Cases Treated during the Fiscal Year ending June 30, 1909, including Office Calls and Cases Treated in the Hospital; Number Excused from Daily Labor on Account of Illness, and Number of Deaths.

	1908.						1909.						Totals .....
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	
Medical Cases.													
Asthma	16	29	27	22	5	6	32	24	39	15	15	18	248
Biliousness	160	179	167	143	150	121	55	170	176	120	182	220	1,843
Boils	6	27	26	3	----	20	22	24	20	3	17	12	180
Bronchitis	13	37	18	55	50	65	5	20	47	30	27	55	422
Catarrh, nasal	28	90	49	----	13	8	12	40	80	18	29	11	378
Constipation	150	90	95	111	10	75	52	94	92	12	37	90	908
Conjunctivitis	32	42	43	4	40	29	28	53	40	23	90	30	454
Colic	----	----	----	----	13	----	----	----	----	----	----	----	13
Cephalagia	15	48	40	28	25	42	27	30	58	31	59	27	430
Diarrhoea	151	74	76	76	150	20	33	76	71	42	132	32	933
Diet	180	67	17	66	42	77	99	27	60	180	162	180	1,157
Dysuria	20	13	11	17	20	27	25	11	14	----	----	----	158
Erysipelas	----	----	----	3	2	----	----	----	----	----	----	----	5
Felons	----	----	15	11	9	11	2	10	----	----	----	----	58
Gleet	----	----	----	----	2	----	----	----	----	----	----	----	2
Gonorrhœa	----	----	----	9	3	6	----	----	----	----	----	----	18
Hemorrhoids	26	31	76	27	----	33	40	76	30	23	30	----	392
Insomnia	----	----	9	2	4	8	----	15	----	----	----	----	38
Indigestion	20	122	120	133	20	71	34	55	132	30	27	27	791
Malaria	127	148	114	155	16	12	2	14	147	----	----	32	767
Neuralgia	23	59	38	26	60	28	42	33	50	40	30	9	438
Otalgia	16	65	35	21	15	19	35	40	67	90	87	15	505
Odontalgia	13	52	35	28	10	21	31	30	50	30	32	21	353
Phthisis	60	60	27	63	60	53	65	32	61	90	247	270	1,088
Pneumonitis	----	----	----	11	----	----	----	----	----	----	----	----	11
Rheumatism	8	91	39	33	65	68	49	30	90	35	29	17	554
Scrofula	----	----	49	17	----	35	----	40	----	----	----	3	144
Syphilis	180	134	47	51	150	116	100	65	134	51	61	90	1,179
Colds	----	----	----	----	350	220	150	61	21	490	120	420	1,832
Hernia	11	22	16	8	4	10	16	16	35	6	3	8	156
Unclassified	20	27	21	47	48	26	----	21	17	11	2	14	254
Surgical Cases.													
Amputation	----	1	----	----	----	----	----	----	----	----	2	----	3
Dislocation	----	----	3	4	----	----	----	----	----	----	----	----	7
Fracture	----	11	5	----	----	----	30	----	----	----	----	----	48
Foreign bodies removed	16	30	27	32	1	----	----	35	30	30	18	15	234
Sprains	21	35	38	32	36	2	30	----	22	29	15	21	281
Teeth extracted	21	21	24	20	12	12	12	20	21	10	27	18	218
Wounds, contused	70	44	46	38	90	82	47	50	34	61	90	32	684
Wounds, incised	61	34	20	55	41	28	56	20	44	90	57	72	578
Unclassified	28	7	23	21	25	----	49	----	----	5	----	----	158
Totals by months	1,492	1,690	1,396	1,374	1,541	1,351	1,180	1,232	1,682	1,595	1,627	1,760	17,920

Total number treated	17,920
Total number excused from daily labor	3,783
Daily average treated	49+
Daily average excused	10+
Death report	12

Hospital Register.

Number of inmates July 1, 1908	8
Admitted during fiscal year	66
Discharged during fiscal year	55
Number on hand, July 1, 1909	19

TABLE No. 2.

Deaths—July 1, 1908, to June 30, 1909.

Date.	Number and Name.	Age.	Cause of Death.
1908—Aug. 14	6221 James W. Leroy	46	Tuberculosis.
Sept. 9	6201 Mark Barrett	27	Gunshot wounds.
Nov. 28	6681 James Melvin	23	Tuberculosis.
1909—Jan. 21	6944 John Young	24	Tuberculosis.
Mar. 8	4059 Gregorio Berevara	47	Chronic endocarditis.
Mar. 21	6706 James G. Smith	33	Pulmonary tuberculosis.
Apr. 30	6965 Antonio Cipolla	26	Execution.
May 2	3571 Jose Rodriguez	44	Pulmonary tuberculosis.
May 20	6685 J. F. Louk	28	Pulmonary tuberculosis.
June 17	6336 Indian Jess	59	Pneumonia.
June 8	6615 Robert Snyder	28	Phthisis.
June 2	7058 Henry Gosler	38	Strangulation—deliberate suicide.

Total number of deaths 12.

REPORT OF THE CLERK.

State Prison at Folsom, July 1, 1910.

To the Honorable, the State Board of Prison Directors.

Gentlemen: I herewith submit for your consideration a full statement of the financial transactions of the State Prison at Folsom for the sixty-first fiscal year ending June 30, 1910.

Respectfully submitted.

J. E. HOSIER,
Clerk.

TABLE

Cash Receipts during the Sixty-first

	1909.				
	July.	August.	September.	October.	November.
Cash balance, sixtieth fiscal year	$1,717 75				
General appropriation support, sixtieth fiscal year	14,587 81				
General appropriation salaries, sixtieth fiscal year	6,008 22				
General appropriation support, sixty-first fiscal year			$7,955 49	$6,697 97	$16,939 72
General appropriation salaries, sixty-first fiscal year		$6,480 04	6,781 98	6,711 67	6,032 06
State treasury—Prison fund	6,033 05	573 39	939 21	830 01	7,304 93
United States government		409 50			455 50
House rentals	141 00	139 65	141 00	141 00	143 10
Switching cars	3 00	41 00	14 00	71 00	35 00
Forage	57 75	67 25	53 75	73 00	67 50
Additional cells	112 75		70 25	104 23	
New wall	66 10		30 07	91 59	
Folsom state hospital	887 61		798 66	1,210 43	518 91
Officers and guards' laundry sales	45 37	46 72	65 46	43 10	47 28
Shop work—General overseer	1 23	5 00	10 50	80	6 90
Quarry	5 56	70	4 46	4 24	2 13
Rebates, discharged prisoners	15 25	27 70		18 35	
Telephone calls	75	2 05		60	25
Sales—Meat	123 20	109 44	117 62	120 76	131 26
Coal	11 16	13 60	9 50	15 00	10 50
Wood		3 75	2 50	17 50	2 50
Coal oil	10 14	12 00	10 95	14 70	10 50
Vegetables	20	20	50	35	20
Ice	28 23	30 94	3 23	1 70	1 50
Drugs	9 00	8 01	11 76	3 65	8 95
Shoe mending	22 75	21 00	17 65	17 35	14 90
Ammunition	3 90	5 55	7 65	4 50	3 60
Meals	4 08			1 25	4 00
Miscellaneous	13 78	18 75	4 57	74	7 96
Rubble sales	13 00				855 63
Decomposed sales	28 00	14 00	28 00		14 00
Rock-crusher	43 30		27 93	13 88	61 76
Repair fund	3 90				
Stock department, sale of horses		75 00			
State department engineering, construction account					178 93
Warden's mess, W. H. Reilly					
Rebate on expressage					
Rebate on freight and cartage					
Totals	$29,997 93	$8,105 24	$17,116 68	$16,209 37	$32,859 47

No. 1.

Fiscal Year ending June 30, 1910.

	1910.						Totals.
December.	January.	February.	March.	April.	May.	June.	
----------	----------	----------	----------	----------	----------	----------	$1,717 75
----------	----------	----------	----------	----------	----------	----------	14,587 81
----------	----------	----------	----------	----------	----------	----------	6,008 22
$9,191 89	$8,202 48	----------	$16,310 93	$8,095 25	----------	$15,705 60	89,099 33
5,944 17	5,930 78	$6.891 94	7,064 70	7,124 20	$7,143 18	7,143 98	73,248 70
1,164 05	1,676 55	----------	1,007 67	854 19	67 50	1,601 37	22,051 92
----------	----------	460 00	----------	----------	270 38	----------	1,595 38
150 50	156 22	153 22	156 00	156 00	156 00	156 00	1,789 69
11 00	59 00	21 00	72 00	64 00	49 00	48 00	488 00
62 50	56 25	60 00	58 75	67 50	61 25	63 75	749 25
----------	----------	----------	----------	----------	----------	----------	287 23
----------	----------	----------	----------	----------	----------	----------	187 66
719 03	434 76	352 62	45 00	1,007 18	653 43	582 51	7,210 14
59 52	36 22	46 78	39 50	41 26	45 10	62 86	579 17
11 40	5 45	1 40	7 15	83	1 55	1 15	53 36
2 57	1 11	75	4 84	1 71	1 94	1 56	31 57
4 69	----------	16 55	16 40	----------	----------	6 50	105 44
2 55	1 00	2 10	50	2 40	3 25	40	15 85
128 06	131 80	142 86	122 38	131 04	136 08	144 00	1,538 50
16 35	21 45	26 55	20 80	14 05	11 25	5 25	175 46
12 50	10 00	22 50	20 00	20 00	15 00	17 50	143 75
15 60	28 95	26 40	18 45	15 15	10 20	11 70	184 75
30	20	20	----------	46	88	70	19
1 50	1 10	75	98	1 35	6 97	20 48	98 73
8 70	11 80	2 45	5 50	10 40	6 60	9 45	96 26
17 20	20 25	25 25	20 50	22 05	27 30	21 50	247 70
4 05	3 15	4 80	5 55	7 65	5 55	3 30	59 25
75	25	1 00	1 00	25	3 50	2 75	18 83
7 13	5 95	3 55	3 28	1 67	3 99	----------	71 46
----------	228 05	----------	195 37	159 37	119 89	----------	1,571 31
----------	14 00	14 00	32 00	17 50	17 50	24 50	203 50
48 09	31 67	----------	51 31	31 95	----------	42 56	362 45
----------	----------	----------	----------	----------	----------	----------	3 90
----------	----------	----------	----------	----------	----------	----------	75 00
109 71	73 74	60 00	88 45	107 30	175 80	75 00	868 93
12 83	14 11	27 78	97	4 70	2 46	1 76	64 61
----------	----------	----------	7 00	----------	----------	----------	7 00
----------	----------	----------	----------	18 00	----------	----------	18 00
$17,706 64	$17,156 29	$8,364 45	$25,376 98	$17,977 41	$8,995 55	$25,754 13	$225,620 14

TABLE

Cash disbursements during the Sixty-first

	1909.				
	July.	August.	September.	October.	November.
Merchandise supplies, sixtieth fiscal year	$12,399 40				
Salaries, sixtieth fiscal year	6,339 56				
Merchandise supplies, sixty-first fiscal year			$3,955 21	$3,603 75	$9,201 94
Salaries, sixty-first fiscal year		$6,280 04	6,581 98	6,511 67	5,812 06
State treasury—prison fund	1,546 05	1,495 92	819 56	1,183 25	1,750 12
Discharged prisoners	153 70	226 28	157 25	256 75	219 60
Telephone	17 00		18 95	13 15	8 65
Telegraph	6 83		5 63		
Expressage	28 05		18 25	15 10	36 15
Traveling expense	39 15		11 20	17 90	18 15
Advertising					191 50
Religious services	100 00	100 00	100 00	100 00	120 00
Postage	100 00			100 00	
Ranch rental	100 00				
Freight	426 04		158 21	221 85	697 34
Hay					
Wood					519 25
Coal, coke, and charcoal	341 79		619 03	171 43	965 37
Experting books	75 00		75 00		75 00
Allowance board and lodging	580 00	573 39	610 16	633 25	576 76
Returning parole violators					
Escaped prisoners					550 00
Furniture and fixtures	129 75		10 49	9 48	134 10
San Francisco office	124 99	37 50	76 47	42 50	121 81
Prison Directors	53 65		62 40	26 65	454 70
Fuel oil					254 66
Macadam			4 00		
Wagons and harness	474 00			7 00	
Parole officer	82 20	62 50	98 65	79 90	95 75
S. P. Canton flannel and cassimere	992 18		532 27	654 69	958 74
Lumber	140 25		183 76	6 43	297 31
Discharged prisoners' clothing	297 35		203 63	93 88	239 57
Leather and findings	712 70		561 15	270 71	953 73
Tobacco and papers	485 57		200 96	256 59	456 62
Ice				54 25	143 99
Hardware	1,115 51		1,062 29	396 42	730 25
Forage	740 36		63 01	91 61	415 53
Bed and bedding	98 20		6 00	60 28	348 68
Live stock, horses, cattle, etc.					17 10
Ordnance	32 95			85 72	19 93
Legal services					2,632 00
Executions					
Drugs	242 59		137 50	329 27	345 64
Paints and oils	102 33		107 50	60 13	164 17
Stationery	79 22		61 60	52 48	123 73
Electricity	1,200 04		60 84	247 30	121 61
Photo material	56 32		99 54	26 26	206 31
Locomotive					2,219 11
Totals	$28,350 73	$8,775 63	$16,653 49	$15,679 65	$32.268 93
Cash on hand June 30, 1910					

No. 2.

Fiscal Year ending June 30, 1910.

	1910.						Totals.
December.	January.	February.	March.	April.	May.	June.	
							$12,399 40
							6,399 56
$4,665 39	$5,297 45		$9,637 19	$4,717 08		$8,570 18	49,648 19
5,744 17	5,730 78	$6,118 15	6,286 13	6,353 00	$6,366 68	6,308 98	68,093 64
2,435 28	1,268 38	1,235 13	1,346 42	786 65	1,728 63	1,521 47	17,124 86
134 98	138 15	111 35	126 09	193 73	169 84	267 00	2,154 72
7 37	6 10		12 25	8 30		12 76	104 53
5 38			1 21				19 05
30 55	32 00		32 25	25 25		47 95	266 55
109 80	53 55		21 50			27 10	298 35
						101 25	292 75
100 00	100 00	120 00	100 00	100 00	100 00	120 00	1,260 00
100 00				100 00		100 00	500 00
	100 00						200 00
242 62	186 37		671 53	247 37		428 62	3,279 95
545 00	377 50						1,513 75
231 45	566 96		1,031 05	288 98		757 31	4,973 37
			75 00			75 00	375 00
571 00	585 72	553 79	578 57	571 20	644 00	637 50	7,115 34
							550 00
35 13	20 63		34 35	223 70		936 64	1,534 27
115 05	37 50	37 50	121 59	188 44	100 00	110 30	1,113 65
29 30	31 65		45 90	88 05		129 90	922 20
402 95						415 33	1,072 94
11 00							15 00
27 00			33 50			13 00	554 50
80 50	88 55	62 50	76 10	36 33		90 54	853 52
626 59	369 87		1,277 02	474 80		1,163 64	7,040 80
52 45	194 91		324 92	242 78		354 60	1,797 41
57 50	81 00		141 12	120 65		206 82	1,441 52
419 15	367 14		1,011 21	444 10		784 19	5,524 08
237 82	217 00		540 92	376 14		477 50	3,249 12
							198 24
440 12	448 74		625 13	374 70		1,045 08	6,238 24
532 76	217 00		354 36	251 46		276 94	2,943 03
115 49	30 54		41 33	30 50		123 73	854 75
8 00						45 00	70 10
82 17						50 19	270 96
			115 00				2,747 00
183 09	105 68		196 63	108 67		375 90	2,024 97
76 80	216 19		223 86	182 64		278 10	1,411 72
73 03	105 49		176 13	73 34		145 65	890 67
252 23	34 04		168 05	173 83		87 49	1,265 43
33 15	58 47		104 80	14 56		53 29	652 70
56 10	148 98		345 20	257 77		100 47	3,127 63
$18,860 37	$17,216 34	$8,238 42	$25,877 31	$17,054 02	$9,109 15	$26,239 42	$224,323 46
							1,296 68
							$225,620 14

TABLE

Statement of Maintenance and Salary Expenditures from July

Warden.	Fiscal years.	Average Population.
Charles Aull	1889-1890	623.00
Charles Aull	1890-1891	678.66
Charles Aull	1891-1892	695.08
Charles Aull	1892-1893	709.08
Charles Aull	1893-1894	689.53
Charles Aull	1894-1895	791.63
Charles Aull	1895-1896	890.42
Charles Aull	1896-1897	900.63
Charles Aull	1897-1898	907.70
Charles Aull	1898-1899	890.42
Charles Aull	To Dec. 1, 1899	848.24
Thomas Wilkinson	Dec. 1, 1899-July 1, 1900	840.28
Thomas Wilkinson	1900-1901	769.53
Thomas Wilkinson	1901-1902	765.75
Thomas Wilkinson	1902-1903	783.19
Thomas Wilkinson	To Dec. 1, 1903	781.58
Archibald Yell	Dec. 1, 1903-July 1, 1904	839.46
Archibald Yell	1904-1905	996.84
Archibald Yell	1905-1906	1,073.16
Archibald Yell	1906-1907	1,024.19
Archibald Yell	July 1, 1907-Feb. 15, 1908	984.12
W. H. Reilly	Feb. 15, 1908-July 1, 1908	1,007.65
W. H. Reilly	1908-1909	1,014.43
W. H. Reilly	1909-1910	1,020.73

No. 3.

1, 1899, to July 1, 1910—tabulated from cash expenditures.

Total maintenance.	Per capita maintenance.	Salaries.	Per capita salaries.	Total per capita per annum.
$75,491 84	$121 17	$40,577 94	$65 13	$186 30
76,049 94	112 05	42,701 64	62 92	174 97
76,557 91	110 14	42,501 92	61 15	171 29
85,549 37	120 65	45,831 90	64 63	185 28
65,989 53	95 70	47,531 90	68 93	164 63
74,440 67	94 03	47,523 60	60 03	154 06
71,467 68	80 26	48,899 75	54 92	135 18
70,119 39	77 86	39,718 44	55 20	133 06
72,812 73	80 22	50,661 17	55 81	136 03
76,253 04	85 64	50,035 15	56 19	141 83
32,383 42	38 18	19,739 17	23 28	61 46 } 142 53
40,499 95	48 20	27,628 40	32 87	81 07
69,700 64	90 64	47,607 04	61 86	152 42
64,136 70	83 75	47,475 78	62 00	145 75
77,252 56	98 64	47,485 31	60 63	159 27
31,874 78	40 79	21,862 45	28 08	68 87 } 165 17
51,437 22	61 27	29,407 96	35 03	96 30
102,775 14	103 10	53,448 70	53 61	156 71
94,414 84	87 97	66,921 65	62 35	150 32
95,184 92	92 94	72,212 57	71 48	164 42
66,531 74	67 61	49,963 98	50 77	118 38 } 187 65
44,614 02	44 28	25,188 82	24 99	69 27
110,651 04	109 07	73,689 66	72 64	181 71
115,005 95	112 67	74,787 55	73 26	185 93

TABLE No. 4.

Per Capita Maintenance from July 1, 1909, to July 1, 1910.

	Inventory July 1, 1909.	Issues 1909-1910.	Total.	Inventory July 1, 1910	Balance gross cost.	Gross cost per capita per diem.
Wardens' mess	$29 39	$384 89	$414 28		$414 28	$0.00111
Officers and guards' mess	1,608 21	9,847 46	11,455 67	$1,694 79	9,760 88	.02619
Prison mess	4,560 40	42,930 70	47,491 10	4,706 80	42,784 30	.11483
Hospital	2,748 96	1,273 85	4,022 81	2,794 91	1,228 40	.00329
Commissary	961 81	69 85	1,031 71	948 78	82 93	.00022
General overseer	5,792 48	1,489 75	7,282 23	6,149 52	1,132 71	.00304
Captain of the guard	13 148 61	1,009 25	14.157 86	13,486 09	671 77	.00180
Turnkey	25,141 47	19,902 04	45,043 51	25,359 86	19,683 65	.05283
Engineer	6,430 84	1,230 78	7,661 62	6,389 32	1,272 30	.00341
Prison laundry	514 68	1,865 95	2,380 63	567 32	1,813 31	.00486
Stock	8,239 72	1,143 32	9,383 04	6,995 29	2,387 75	.00640
Warden's office	600 62	4 42	605 04	547 92	57 12	.00015
Clerk's office	1,308 55	263 28	1,571 83	1,121 10	450 73	.00120
San Francisco office		1,080 56	1,080 56		1,080 56	.00289
Prison directors		921 25	921 25		921 25	.00247
Quarry	7,878 49	4,005 00	11,883 49	7,983 49	3,900 00	.01046
Light	12,198 01	2,697 31	14,895 32	12,505 75	2,389 57	.00641
Expense		4,930 67	4,930 67		4,930 67	.01323
Repairs		2,000 51	2,000 51		2,000 51	.00536
Furniture and fixtures	4,675 50	1,196 93	5,872 43	4.658 06	1,214 37	.00325
Ice plant	3,726 65	561 82	4,288 47	3,726 65	561 82	.00150
Commissary sales		1,996 33	1,996 33		1,996 33	.00535
Farm	4,570 62	2,483 16	7.053 78	5,610 10	1,443 68	.00387
Wooden buildings	28,072 90	2,177 37	30,250 27	30,100 91	149 36	.00040
Officers and guards' laundry	235 70	233 99	469 69	235 08	234 61	.00062
Sewage plant	13,479 33	1,139 29	14,618 62	13,479 33	1,139 29	.00305
Escaped prisoners		550 00	550 00		550 00	.00147
Officers and guards' residences		950 91	950 91		950 91	.00255
Railroad material	24,900 08	23 96	2.514 04	2,487 86	26 18	.00007
Salaries		74,787 55	74,787 55		74,787 55	.20073
Discharged prisoners		2,024 53	2,024 53		2,024 53	.00543
Locomotive account		3,782 38	3,782 38	3.127 63	654 75	.00175
Allowance board and lodging		7,178 59	7,178 59		7,178 59	.01926
Parole officers		786 12	786 12		786 12	.00210
Freight and cartage		1,797 87	1,797 87		1,797 87	.00482
Totals	$148,413 07	$198,721 64	$347,134 71	$154 676 06	$192,485 65	$0.51637

Gross cost, per diem		$527 283
Gross cost		$192,458 65
Sales and earnings—		
Officers and guards' mess sales (meals)	$18 83	
Shopwork, general overseer	56 59	
Ammunition sales to officers and guards	59 25	
Turnkey sales	25 64	
Forage sales to officers and guards	749 25	
Drugs and medicines to officers and guards	96 26	
Quarry sales, blacksmithing	1,945 49	
Commissary sales to officers and guards	2,464 53	
Rental of state houses	1,789 69	
Washing for officers and guards	579 17	
Quarry sales (granite, earth, etc.)	5,813 56	
Support of United States prisoners	1 598 38	
Switching cars by locomotive	500 39	
Stock rental	700 99	
Warden's mess (W. H. Reilly)	92 04	
Engineer's sales	28 09	16,518 15
Net cost of maintenance		$175,940 50
Average daily number of prisoners	1020.73	
Average net per capita per diem	.4722 cents.	
Net cost per diem	$482.028	

TABLE No. 5.

Assets and Liabilities July 1, 1910.

AVAILABLE ASSETS:			
Cash on hand		$1,296 68	
Cash balance, State treasury (prison fund)		7,422 80	
Cash balance, State treasury (general fund)			
For support	$8,900 67		
For salaries	7,136 26		
For repairs	86 39	16,123 32	
Due from sundry debtors		3,144 78	
			$27,987 58
LIABILITIES:			
Unpaid supply claims for June, 1910, general fund		$8,900 67	
Unpaid supply claims for June, 1910, prison fund		1,696 86	
Unpaid board and lodging for June, 1910, prison fund		643 25	
Unpaid salaries for June, 1910, general fund		6,493 01	
Amount due sundry creditors		18 38	17,752 17
Excess of available assets			$10,235 41
PERMANENT ASSETS:			
Officers and guards' mess		$1,694 79	
Hospital		2,794 41	
Prison mess		4,706 80	
Commissary		948 78	
General overseer's department		6,149 52	
Captain of guard's department		13,486 09	
Turnkey department		25,359 86	
Engineer's department		6,389 32	
Ice plant		3,726 65	
Light department		12,505 75	
Officers and guards' laundry		235 08	
Prison laundry		567 32	
Farm department		5,610 10	
Stock department		6,995 29	
Warden's office		547 92	
Clerk's office		1,121 10	
Quarry department		7,983.49	
Furniture and fixtures		4,658 06	
Prison improvements		671,971 43	
Wooden buildings		3,010 91	
Sewage plant		13,479 33	
Merchandise		8,004 30	
Railroad track		2,487 86	
Real estate		15,000 00	
Locomotive		3,127 63	$849,651 79
Total excess of assets			$859,887 20

TABLE No. 6.

Trial Balance of the Sixty-first Fiscal Year ending June 30, 1910.

	Trial balance June 30, 1910.		Inventory June 30, 1910.	State Prison at Folsom, June 30, 1910.		Trial balance July 1, 1910.	
	Dr.	*Cr.*		*Dr.*	*Cr.*	*Dr.*	*Cr.*
Cash	$1,296 68					$1,296 68	
Warden's mess	414 28				$414 28		
Officers and guards' mess	11,455 67		$1,694 79		9,760 88	1,694 79	
Officers and guards' mess (sales)		$18 83		$18 83			
Prison mess	47,491 10		4,706 80		42,784 30	4,706 80	
Hospital department	4,022 81		2,794 41		1,228 40	2,794 41	
Hospital department (sales)		96 26		96 26			
Commissary department	1,031 71		948 78		82 93	948 78	
Ammunition (sales)		59 25		59 25			
General overseer (sales)		56 59		56 59			
General overseer's department	7,282 23		6,149 52		1,132 71	6,149 52	
Captain of guards' department	14,157 86		13,486 09		671 77	13,486 09	
Turnkey's department	45,043 51		25,359 86		19,683 65	25,359 86	
Turnkey's department (sales)		25 64		25 64			
Engineer's department	7,661 62		6,389 32		1,272 30	6,389 32	
Engineer's department (sales)		28 09		28 09			
Prison laundry	2,380 63		567 32		1,813 31	567 32	
Stock rental		700 99		700 99			
Stock department	9,380 04		6,995 29		2,387 75	6,995 29	
Forage account		749 25		749 25			
Warden's office	605 04		547 92		57 12	547 92	
Clerk's office	1,571 83		1,121 10		450 73	1,121 10	
San Francisco office	1,080 56				1,080 56		
Prison directors	921 25				921 25		
Parole officer	786 12				786 12		
Officers and guards' residences	950 91				950 91		
Quarry department	11,883 49		7,983 49		3,900 00	7,983 49	
Quarry department (sales)		1,954 49		1,954 49			
Light department	14,895 32		12,505 75		2,389 57	12,505 75	
Farm department	7,053 78		5,610 10		1,443 68	5,610 10	
Expense account	4,930 57				4,930 57		
Commissary sales		468 20		468 20			
Repairs	2,000 51				2,000 51		
Rental account		1,789 69		1,789 69			

Rock-crusher	32 63					32 63	
Switching account	40 00					40 00	
Furniture and fixtures	5,872 43		4,658 06		1,214 37	4,658 06	
United States of America	183 70					183 70	
Prison improvements	671,971 43		671,971 43			671,071 43	
Ice plant	4,288 47		3,726 65		561 82	3,726 65	
Sundry debtors	53 10					53 10	
Wooden buildings	30,250 27		30,100 91		149 36	30,100 91	
Officers and guards' laundry	469 69		235 08		234 16	236 08	
Officers and guards' laundry (sales)		579 17		579 17			
Sewage plant	14,618 62		13,479 33		1,139 29	13,479 33	
Merchandise	8,004 30		8,004 30			8,004 30	
General appropriation (support)		103,687 14		103,687 14			
General appropriation (salaries)		79,256 92		79,256 92			
Escaped prisoners	550 00				550 00		
Freight and cartage	1,797 87				1,797 87		
State prison at Folsom		827,939 71			844,202 64		$844,202 64
Railroad material	2,514 04		2,487 86		26 18	2,487 86	
Real estate	15,000 00		15,000 00			15,000 00	
Rock-crusher surplus account		6,549 25		6,549 25			
Salaries	74,787 55				74,787 55		
Sundry creditors		10,802 02					10,802 02
United States prisoners		1,320 83		1,320 83			
Discharged prisoners	2,024 53				2,024 53		
Allowance board and lodgings	7,178 59				7,178 59		
Sundry officers and guards		6,493 01					6,493 01
State treasurer—prison fund	7,422 80					7,422 80	
Locomotive account	3,782 38		3,127 63		654 75	3,127 63	
Repair fund		1,417 51		1,417 51			
Quarry sales		5,813 56		5,813 56			
Warden's mess—W. H. Reilly	27 43					27 43	
Appropriation new houses		2,152 25		2,152 25			
Folsom state hospital	536 42					536 42	
Southern Pacific Company	1,054 76					1,054 76	
State department engineering	170 86					170 86	
B. F. Smith		1 24		1 24			
V. M. Colt	329 93					329 93	
Sacramento Electric, Gas, and Railway Company		18 38					18 38
State prison at San Quentin	715 95					715 95	
Balance to credit of state prison at Folsom June 30, 1910				827,939 71			
Totals	$1,051,978 27	$1,051,978 27	$849,651 79	$1,034,664 86	$1,034,664 86	$861,516 05	$861,516 05

TABLE No. 7.

Receipts from Farm for the Fiscal Year ending June 30, 1910.

Apricots	630 pounds	Oranges	937 dozen
Beans, string	2,560 pounds	Onions, dry	715 pounds
Beef	7,240 pounds	Onions, green (bunches)	13,167 bunches
Beets	400 pounds	Parsley	734 bunches
Blackberries	100 pounds	Parsnips	355 pounds
Cabbage	11,200 pounds	Peaches	8,535 pounds
Carrots	5,680 pounds	Peas	175 pounds
Cauliflower	270 pounds	Peppers	475 pounds
Celery	288 dozen	Pork	6,321 pounds
Chickens	220 each	Potatoes	965 pounds
Corn, green	1,053 dozen	Pumpkins	260 pounds
Cucumbers	287 dozen	Radishes	514 dozen
Ducks	64 each	Rhubarb	700 pounds
Eggs	1,644 dozen	Spinach	550 pounds
Egg plant	95 pounds	Squash	1,905 pounds
Grapes	7,040 pounds	Straw	20 tons
Garlic	5 pounds	Tomatoes	6,47 pounds
Hay	75 tons	Turkeys	27 each
Lettuce	698 dozen	Turnips	27,310 pounds
Melons, musk	1,105 each	Veal	856 pounds
Milk	18,303 gallons		

TABLE No. 8.

Meals Served at Officers and Guards' Mess during fiscal year ending June 30, 1910.

Month.	Regulars	Visitors.	Sheriffs.	Hospital.	Cooks and waiters.	Lunches to guards	Lunches to band.	Night guards.	Prisoners.	Totals.
1909—July	4,500	28	8	300	1,170	600	158	510	90	7,364
August	4,524	48	10	300	1,170	600	195	510	90	7,447
September	4,500	37	19	300	1,170	600	154	510	90	7,380
October	4,473	36	13	310	1,209	620	116	527	93	7,397
November	4,313	27	11	300	1,170	300	156	360	90	6,727
December	4,572	26	14	310	1,116	576	156	518	93	7,381
1910—January	4,513	30	52	310	1,116	992	191	641	93	7,938
February	4,018	45	29	280	1,008	888	152	617	84	7.121
March	4,425	16	20	526	1,116	1,093	152	682	93	8,123
April	4,392	64	12	540	1,080	1,154	152	660	139	8,376
May	4,247	54	31	558	1,116	1,312	190	682	186	8,376
June	4,466	70	9	540	1,080	1,302	152	660	180	8,459
Totals	52,943	481	228	4,574	13,521	10,037	1,924	6,877	1,321	91,906

Net cost for year 1909-1910........$9,760.88.

Number meals furnished........91,906.

Average cost per meal........$0.1062.

TABLE No. 9.

Rock-crusher Transactions from June 10, 1896, to June 30, 1910.

COST OF ROCK-CRUSHING PLANT.

Cash received from general fund		$24,985 61	
Cash received from revolving fund		4,805 35	
			$29 790 96
Cash received from special appropriation—Von Geldern			344 70
Total cost of plant			$30,135 76

COST OF CRUSHING ROCK.

Rock-crusher expenditures and claims due June 30, 1897			$47,492 39
Inventory, July 1, 1897			33,009 78
			$14,482 61
Cost per ton, 1896-1897		17.199 cents.	
Inventory July 1, 1897		$33,009 78	
Supply purchase to June 30, 1898		18,387 12	
			$51,396 90
Inventory July 1, 1898			34,834 55
Cost of crushing 79,996¼ tons rock			$16,562 35
Cost per ton, 1897-1898		20.7 cents.	
Inventory July 1, 1898		$34,834 55	
Supply purchases to June 30, 1899		9,088 53	
			$43,923 08
Inventory July 1, 1899			34,682 94
Cost of crushing 34,840$\frac{5}{2000}$ tons rock			$9,240 14
Cost per ton, 1898-1899		26.5 cents.	
Inventory July 1, 1899		$34,682 94	
Supply purchases to June 30, 1900		8,002 93	
			$42,685 97
Inventory July 1, 1900			34,448 13
Cost of crushing 32,748$\frac{1}{2000}$ tons of rock			$8,237 74
Cost per ton, 1899-1900		25.15 cents.	
Inventory July 1, 1900		$34,488 13	
Supply purchases to June 30, 1901	$9,804 40		
Less rebate on supplies	19 37	9,785 20	
			$44,233 16
Inventory July 1, 1901		$17,130 93	
Loss by fire June 20, 1901 (estimated)		17,097 20	34,228 13
Cost of crushing 45,217$\frac{195}{2000}$ tons rock			$10,005 03
Cost per ton, 1900-1901 (estimated)		22.13 cents.	
Supplies purchased to June 30, 1902		$8,866 71	
Inventory July 1, 1901		17,130 93	
Rebuilding account		6,441 06	
			$32,438 70
Inventory June 1, 1902			28,987 20
Cost of crushing 32,631$\frac{85}{2000}$ tons of rock			$8,451 50
Cost per ton, 1901-1902		25.9 cents.	
Inventory July 1, 1902		$23,987 20	
Supply purchases to June 30, 1903	$18,788 55		
Less rebate on supplies ($55.18 and $1.05)	56 23	18,732 32	
			$42,719 52
Inventory July 1, 1903			23,928 69
Cost of crushing 68,026$\frac{107}{2000}$ tons of rock			$18,890 83
Cost per ton, 1902-1903		27.77 cents.	

Inventory July 1, 1903	$23,828 69	
Supply purchases to June 30, 1904	14,566 11	
		$38,394 80
Inventory July 1, 1904		22,809 30
Cost of crushing 60,064$\frac{172}{2000}$ tons of rock		$15,585 30
Cost per ton, 1903-1904	25.95 cents	

Inventory July 1, 1904	$22,809 30	
Supply purchases to June 30, 1905	15,958 10	
		$38,767 40
Inventory July 1, 1905		22,480 50
Cost of crushing 61,104$\frac{850}{2000}$ tons of rock		$16,286 50
Cost per ton, 1904-1905	26.65 cents.	

Inventory July 1, 1905	$22,480 50	
Supply purchases to June 30, 1906	16,977 88	
		$39,458 38
Inventory July 1, 1906		22,749 34
Cost of crushing 53,193$\frac{1420}{2000}$ tons of rock		$16,709 34
Cost per ton, 1905-1906	31.41 cents.	

Inventory July 1, 1906	$22,749 34	
Supply purchases to June 30, 1907	10,927 58	
		$33,676 92
Inventory July 1, 1907		23,283 44
Cost of crushing 40,988$\frac{1470}{2000}$ tons of rock		$10,393 48
Cost per ton, 1906-1907	25.26 cents.	

Inventory July 1, 1907	$23,283 44	
Supply purchases to June 30, 1908	7,027 48	
		$30,310 91
Inventory July 1, 1908		23,444 69
Cost of crushing 30,793$\frac{780}{2000}$ tons of rock		$6,866 22
Cost per ton, 1907-1908	22.29 cents.	

Inventory July 1. 1908	$23,444 69	
Supply purchases to June 30, 1909	8,729 87	
		$32,174 56
Inventory July 1, 1909		23 098 21
Cost of crushing 18,329$\frac{1540}{2000}$ tons of rock		$9,076 35
Cost per ton, 1908-1909	49.52 cents.	

Inventory July 1, 1909	$23,098 21	
Supply purchases to June 30, 1910	5,698 17	
		$28,796 38
Inventory July 1, 1910		22,653 47
Cost of crushing 17,354$\frac{1300}{2000}$ tons of rock		$6,142 91
Cost per ton, 1909-1910	35.39 cents.	

GROSS TOTALS.

Cost of crushing 660,079$\frac{100}{2000}$ tons of rock from June 10, 1896, to July 1, 1910		$166,930 60
Cost per ton	25.27 cents.	

PROFIT OF CRUSHING ROCK.

June 10, 1896, to July 1, 1910.

129,998,480 pounds sold at 25 cents per ton	$16,249 82	
703,467,180 pounds sold at 30 cents per ton	105,521 74	
353,736,820 pounds sold at 35 cents per ton	61,904 70	
115,948,920 pounds sold at 40 cents per ton	23,189 48	
3,631,200 pounds sold at 45 cents per ton	817 18	
13,375,500 pounds sold at 55 cents per ton	3,678 22	
		$211,361 14
1,320,158,100 pounds crushed at cost of 25.27 cents per ton		166,930 60
Total profits from June 10, 1896, to July 1, 1910		$44,430 54

TABLE No. 9—*Continued.*

Rock-crusher Transactions.

CASH ASSETS AND LIABILITIES, JULY 1, 1910.

Cash Assets.

Cash on hand July 1, 1910	$2,188 80	
Amount of revolving fund	4,150 08	
		$6,388 88
Due from sundry debtors—		
Suspense account	$77 91	
State department engineering	106 86	
Perrin Brothers	44 98	
John Hughes	62 04	
T. M. Burns	105 07	
Stockton Ice and Fuel Company	28 74	
John D. Shearer	131 91	
F. E. Frey	227 06	
Mathews Construction Company	5 61	
Appleton & Fredrickson Brothers	314 09	
C. L. Newton	29 46	
W. R. Service	27 58	
		1,161 35
		$7,500 23

Liabilities.

Due sundry creditors	$463 48	
Due for macadam prepaid—		
Elk Grove Vineyard Association	43 52	
Robertson-Govan Company	6 72	
		513 72
Cash assets available		$6,986 51

SALES AND DISPOSAL OF SALES PROCEEDS.

22,269 cars = $660{,}079\frac{100}{2000}$ tons = 1,320,158,100 pounds shipped.

129,998,480 pounds at 25 cents per ton		$16,249 82	
793,467,180 pounds at 30 cents per ton		105,521 74	
353,736,820 pounds at 35 cents per ton		61,904 70	
115,948,920 pounds at 40 cents per ton		23,189 48	
3,631,200 pounds at 45 cents per ton		817 18	
13,375,500 pounds at 55 cents per ton		3,678 22	
1,320,158,100 pounds		$211,361 14	
Sales other than macadam		75 60	
Cash rebate on supplies		1 05	
			$211,437 79
Deposited in revolving fund		$175,839 56	
Deposited in general fund		1,237 13	
Deposited in state prison at Folsom fund		31,059 06	
Cash on hand	$2,188 80		
Less macadam prepaid	50 24		
		2,138 56	
Due for macadam sold		1,161 35	
Cash rebate on sales 10,650 pounds macadam at 40 cents per ton		2 13	
			$211,437 79

TABLE No. 10.

Road Metal Crushed and Shipped from June 10, 1896, to June 30, 1907.

Months and years.	No. cars shipped	Size of crushed rock in pounds.			Total weight in pounds.	Value of crushed rock.			Total value.
		2½-inch.	1½-inch.	¾ inch.		25c. per ton.	30c. per ton.	35c. and 40c. per ton.	
1896—June	112	2,801,760	1,584,600	1,528,200	5,914,560	$739 32			$739 32
July	161	4,050,800	2,136,950	2,487,950	8,675,700	1,084 47			1,084 47
August	303	7,264.670	4,022,260	4,581,720	15,868,650	1,983 57			1,983 57
September	331	9,611,750	4,215,400	4,181,710	18,008,860	2,251 10			2,251 10
October	333	9,010,545	4,009,825	4,809,960	17,830,330	2,228 79			2,228 79
November	247	6,621,880	2,837,950	3,269,050	12.728,880	1,591 11			1,591 11
December	270	7,486,100	3,935,100	3,233,450	14,654,650	1,831 83			1,831 83
1897—January	189	5,143,850	2,642,800	2,239,860	10,026,510	1,253 32			1,253 32
February	83	1,927,460	1,289,400	1,212.260	4,429,120	553 64			553 64
March to 11th	20	477,150	311,600	272,600	1,061,350	132 67			132 67
March to 31st	118	1,889,760	2,663,680	1,773,800	6,327,240	778 22	$15 23		793 45
April	184	4,757,510	2,686,610	2,367,950	9,812,070	508 28	861 89		1,370 17
May	415	10,575,910	6,316,610	5,491,960	22,384,480	1,140 97	1,988 51		3,129 48
June	400	9,396,740	6,910,720	5,540,750	21,848,210	172 53	3,070 19		3,242 72
1897—July	285	6,767.490	4,701.290	4,023,810	15,492,590		2,323 89		2,323 89
August	284	6,533.100	4,744,750	3,978,160	15,256,010		2,288 42		2,288 42
September	328	8,663,700	4,206.750	4,393,370	17,263,820		2,589 57		2,589 57
October	342	9,239,410	5,206,800	4.420,710	18.866,920		2,830 04		2,830 04
November	350	9,282,100	5,433,350	4,834,560	19,550.010		2,932 50		2,932 50
December	332	7,374,000	6,313,600	4,574,150	18,261,750		2,739 26		2,739 26
1898 - January	146	1,598,550	3,911 260	2,703,250	8,213,060		1,231 96		1,231 96
February	12	401,100	170,400	110,650	682,150		102 32		102 32
March	127	2,395,150	2,628,950	2,304,370	7,328.470		1,099 27		1,099 27
April	180	3,631.110	4,176,750	2,514,950	10,322,810		1,548 42		1,548 42
May	245	6,842,750	3,790,410	3,398,300	14,031,460		2,104 72		2,104 72
June	261	5,181,750	5,201,850	4,339,850	14,723,450		2,208 52		2,208 52
1898—July	106	1,494.900	1,932,000	2,221,450	5,648,350		847 26		847 26
August	69	1,956,400	110,450	1,780,100	3,846.950		577 06		577 06
September	103	1,318,250	3,430,950	1,177,310	5,926,510		888 97		888 97
October	167	2,934,850	2,960,000	3,646,450	9,541,300		1,431 21		1,431 21
November	129	2,265,950	3,206,650	1,816,450	7,289,050		1,093 38		1,093 38
December	40	225,850	1,173,150	861,500	2,260,500		339 09		339 09

TABLE No. 10—*Continued.*

Rock Metal Crushed and Shipped from June 10, 1896, to June 30, 1907.

Months and years.	No. cars shipped.	Size of crushed rock, in pounds.			Total weight in pounds.	Value of crushed rock.			Total value.
		2½-inch.	1½-inch.	¾-inch.		25c. per ton.	30c. per ton.	35c. and 40c. per ton.	
1899—January	58	272,050	1,416,350	1,575,400	3,263,800		$489 58		$489 58
February	73	175,850	680,150	3,332,450	4,188,450		628 28		628 28
March	46	55,850	784,850	1,855,950	2,660,650		399 13		399 13
April	125	1,617,100	3,038,600	2,514,600	7,170,300		1,075 59		1,075 59
May	170	4,593,470	2,538,050	2,231,260	9,552,780		1,432 93		1,432 93
June	151	2,625,310	3,602,750	2,111,350	8,339,410		1,250 93		1,250 93
1899—July	53	479,350	1,150,000	1,248.950	2,878,300		431 73		431 73
August	60	1,005,050	996,870	1,365,160	3,367,080		505 08		505 08
September	86	2,482,500	919,600	1,523,500	4,925,600		738 87		738 87
October	52	610,200	1,186,250	1,132.380	2,928,930		439 34		439 34
November	113	1,939.600	2,970,560	1,797,750	6,707,910		1,006 22		1,006 22
December	131	2,516,010	3,464,110	2,279,950	7,960,070		1,194 02		1,194 02
1900—January	134	2,378.850	3,409,610	2,185,530	7,973,990		1,196 12		1,196 12
February	85	665,250	2,182,470	2,000,960	4,848,680		727 33		727 33
March	113	436,250	3,187,850	3,203,250	6,827,350		1,024 15		1,024 15
April	88	1,139,450	2,157,450	1,816,960	5,113,860		767 10		767 10
May	73	526,550	2,687,560	986,050	4,200,160		630 05		630 05
June	137	2,948,000	2,631,800	2,184,280	7,764,080		1,164 63		1,164 63
1900—July	172	2,847,800	4,368,700	2,219,000	9.435,500		1,415 36		1,415 36
August	151	3,280,400	3,609,200	1,640,650	8,530,250		1,279 53		1,279 53
September	165	3,539,550	3,639,700	2,031,000	9,210,250		1,381 55		1,381 55
October	194	4,166.450	4.850,810	1,780,900	10,798,160		1,619 74		1,619 74
November	193	2,830,200	5.599,300	2,016.480	10,445,980		1,566 87		1,566 87
December	167	825,750	6.473,440	1,939,550	9,238,740		1,385 86		1,385 86
1901—January	138	665,250	5,541,000	1,338,550	7,544,800		1,131 76		1,131 76
February	112	977,300	4,380,950	1,014,660	6,372,910		955 95		955 95
March	117	732,050	3,948,250	2,000,100	6,680,400		1,002 12		1,002 12
April	44	863.250	896,050	696.850	2,456,150		368 45		368 45
May	85	1,368,850	2,436,100	873,450	4,678,400		701 76		701 76
June	96	966,970	3,105,650	971,770	5,044,390		756 70		756 70
1901—November	15		705,850	118,600	824,450		123 67		123 67
December	200	3,913,400	4,955,700	2,616,150	11,485,250		1,722 79		1,722 79
1902—January	169	1,007,600	6,559,250	2,175,900	9,742,750		1,461 47		1,461 47
February	138	462,650	5,300,850	2,393,000	8,156,500		1,223 51		1,223 51

March	166	1,823,450	4,670,170	3,172,650	9,666,270		1,450 01		1,450 01
April	112	602,250	3,692,800	2,182,830	6,477,880		971 69		971 69
May	226	1,406,700	11,225,300	2,565,950	15,197,950		2,279 71		2,279 71
June	52	241,200	2,643,950	826,650	3,711,800		556 78		556 78
1902—July	202	232,000	10,872,560	3,437,750	14,542,310		2,181 37		2,181 37
August	203	188,800	13,336,150	1,892,830	15,417,780		2,312 71		2,312 71
September	158	112,900	11,612,100	532,400	12,257,400		1,838 62		1,838 62
October	143	719,800	8,754,300	1,043,250	10,517,350		1,577 63		1,577 63
November	160	1,824,500	6,760,000	1,805,050	10,389,550		1,558 44		1,558 43
December	167	1,106,100	8,323,850	1,588,700	11,018,650		1,652 80		1,652 80
1903—January	98	100,000	5,466,310	778,050	6,344,360		951 71		951 71
February	154	618,000	8,099,500	1,127,650	9,845,150		1,476 81		1,476 81
March	178	2,204,950	7,566,200	2,077,600	11,848,750		1,777 40		1,777 40
April	222	647,050	11,123,900	2,374,400	14,145,350		2,121 82		2,121 82
May	178	2,488,850	5,944,100	3,158,870	11,591,820		1,738 82		1,738 82
June	130	1,065,650	4,619,550	2,449,400	8,134,600		1,220 20		1,220 20
1903—July	198	3,497,450	5,277,950	3,366,350	12,141,750		1,821 33		1,821 33
August	19[illegible]	3,366,650	4,461,740	3,799,350	11,627,740		1,744 20		1,744 20
September	130	1,842,350	3,412,250	2,500,850	7,755,450		1,163 36		1,163 36
October	161	1,634,050	4,633,750	3,094,600	9,362,400		1,404 43		1,404 43
November	101	109,050	3,505,550	2,102,050	5,716,650		857 55		857 55
December	112	68,000	3,792,300	2,457,250	6,317,550		947 65		947 65
1904—January	168	2,937,300	2,962,150	3,482,300	9,381,750		1,407 32		1,407 32
February	155	2,935,600	2,680,500	3,814,550	8,430,650		1,264 61		1,264 61
March	200	2,558,850	4,635,050	3,745,550	10,939,450		934 92	$823 69	1,758 61
April	274	4,187,200	5,538,820	4,702,730	14,428,750			2,525 05	2,525 05
May	226	3,740,850	4,978,250	3,511,740	12,230,840			2,140 42	2,140 42
June	212	3,952,350	4,511,490	3,332,900	11,796,740			2,064 43	2,064 43
1904—July	168	2,303,000	4,498,250	2,580,650	9,381,900			1,641 85	1,641 85
August	148	2,054,350	3,289,050	2,882,950	8,226,350			1,439 64	1,439 64
September	201	3,370,660	4,237,450	3,581,000	11,189,100			1,958 10	1,958 10
October	245	3,602,600	5,505,620	4,792,900	13,901,120			2,432 72	2,432 72
November	143	2,298,390	3,311,900	2,293,850	7,904,140			1,383 25	1,383 25
December	162	229,200	5,465,050	4,538,650	8,232,900			1,440 75	1,440 75
1905—January	126	803,750	3,133,840	2,189,000	6,126,590			1,072 17	1,072 17
February	170	1,817,780	2,898,650	3,379,460	8,095,890			1,416 81	1,416 81
March	212	3,045,350	3,855,300	3,246,550	10,147,200			1,775 75	1,775 75
April	233	3,876,750	4,689,450	4,142,850	12,709,050			2,224 27	2,224 27
May	217	5,858,050	5,406,450	2,622,900	13,887,400			2,430 32	2,430 32
June	185	5,064,560	2,850,150	4,492,500	12,407,210			2,171 29	2,171 29
1905—July	170	3,847,000	2,643,300	4,579,900	11,070,200			1,937 33	1,937 33
August	192	5,772,160	2,255,520	4,903,650	12,931,330			2,263 00	2,263 00
September	120	3,242,800	2,353,750	2,257,350	7,853,900			1,374 45	1,374 45
October	119	2,428,810	2,473,800	2,847,150	7,749,760			1,356 25	1,356 25
November	136	3,130,650	2,747,750	2,794,300	8,672,700			1,517 74	1,517 74

TABLE No. 10—*Continued.*

Road Metal Crushed and Shipped from June 10, 1896, to June 30, 1907.

Months and years.	No. cars shipped.	Size of crushad rock in pounds.			Total weight in pounds.	Value of crushad rock.			Total value.
		2½-inch.	1½-inch.	¾-inch.		25c. per ton.	30c. per ton	35c. and 40c. par ton.	
1905—December	158	3,791,500	3,161,250	2,938,500	9,891,250			$1,730 98	$1,730 98
1906—January	69	710,650	2,390,850	1,366,700	4,468,200			781 94	781 94
February	151	1,053,750	5,440,800	3,511,855	10,006,405			1,751 13	1,751 13
March	169	1,393,600	4,804,050	4,807,650	11,005,300			1,925 93	1,925 93
April	118	2,851,150	2,228,500	3,233,200	8,312,850			1,454 76	1,454 76
May	77	2,229,375	1,436,300	1,796,100	5,461,775			955 81	955 81
June	126	4,484,300	2,218,800	2,260,650	8,963,750			1,568 68	1,568 68
1906—July	154	5,826,410	1,100,200	2,588,800	9,515,410			1,665 20	1,655 20
August	192	5,974,630	1,576,600	3,350,150	10,901,380			1,907 74	1,907 74
September	111	3.008,780	1,624,550	2,225,750	6,859,080			1,200 34	1,200 34
October	155	4,847,650	1,993,850	3,324.000	10,165.500			1,778 97	1,778 97
November	96	2,658,100	1,213,250	1,996,250	5.867,600			1,026 85	1,026 85
December	121	4,077,400	1,668,900	2,328,550	8,074,850			1,413 11	1,413 11
1907—January	86	3,169,150	1,171,300	1,314,950	5,655,400			989 72	989 72
February	72	2,425 150	1,034,850	1,204,400	4,664,400			816 30	816 30
March	85	3,277,650	1,057,800	1,436,400	5,771,850			1,010 08	1,010 08
April	37	1,209.750	515,450	761,900	2,487,150			435 26	435 26
May	103	3,962.850	1,258,050	1,727,200	6,948,100			1,215 93	1,215 93
June	75	2,504.050	1,085,800	1,476,900	5,066,750			886 70	886 70
1907—July	45	1,497,950	592,900	924,100	3,014,950			602 99	602 99
August	42	1,945,850	323,950	433,100	2,702,900			540 58	540 58
September	71	2.347,850	804.550	1,087.550	4,239,950			847 99	847 99
October	77	2,613,850	953,150	959,800	4,526,800			905 36	905 36
November	68	2,401,900	632,900	851,150	3,885,950			777 19	777 19
December	61	1,694,700	961,250	882,650	3,538,600			707 72	707 72
1908—January	27	314,000	678,300	474,800	1,467,100			293 42	293 42
February	60	488.500	2,016,950	999,750	3,505,200			701 04	701 04
March	148	2.352,750	4,570,500	2,735,700	9,658,950			1,931 79	1,931 79
April	138	3,398,100	3,053.500	2,583,500	9,035,100			1,807 02	1,807 02
May	137	4,380,200	1,892,000	2,450,230	8,722.430			1,744 49	1,744 49
June	103	4,276,400	1,406,650	1,605,800	7,288,850			1,457 77	1,457 77
Totals	21,339	400,141,850	505,496,515	343,150,895	1,248,789,260	$16,249 82	$105,521 74	$74,222 06	$195,993 62

TABLE No. 10—*Continued.*

Rock Metal Crushed and Shipped from June 10, 1896, to June 30, 1907.

Months and years.	No. cars shipped	Size of crushed rock in pounds.			Total weight in pounds.	Value of crushed rock.				Total value.
		2½-inch.	1½-inch.	¾-inch.		25c. per ton.	30c. per ton.	35c. and 40c. per ton.	45c. and 55c. per ton.	
Amounts brought down	21,339	400,141,850	505,496,515	343,150,895	1,248,789,260	$16,249 82	$105,521 74	$74,222 06		$195,993 62
1908—July	32	1,095,100	574,300	570,100	2,239,500			447 90		447 90
August	105	2,673,000	2,418,600	2,287,800	7.442,400			1,488 48		1,488 48
September	89	2,918,000	1,699,800	1,603,900	6,221,700			1,244 34		1,244 34
October	38	1,315,600	820,440	684,100	2.856,140			571 23		571 23
November	34	1,276.300	758,700	536,600	2,571,600			514 32		514 32
December	31	853,800	636,700	744,200	2,234,700			446 94		446 94
1909—January	21	503,700	498,600	457,300	1,459,600			291 92		291 92
February	30	804,600	741,200	604,800	2,150 600			430 12		430 12
March	35	1,074.300	929,200	679,100	2,682,600			536 52		536 52
April	31	1,297.700	304,400	700,600	2,303,700			460 74		460 74
May	67	2,437,300	766,400	1,091.400	4,295,100			859 02		859 02
June	3	72,800	67,300	61,800	201,900			40 38		40 38
1909—July	73	2,241,100	1,118,500	881,700	4,241,300			848 26		848 26
August	20	692,500	467,100	364,600	1,524,200			304 84		304 84
September	75	2,317,600	1,693,100	1,619,300	5,630,000			1,126 00		1,126 00
October	28	1,017,900	792,000	837,500	2,647,400			303 46	$310 78	614 24
November	9	285 200	247,000	220,200	752,400				184 20	184 20
December	13	104,400	558,100	344.700	1,007,200				229 69	229 69
1910—January	23	272.500	1,085,900	657,000	2,015,400			248 00	213 23	461 23
February	26	319,700	1,250,600	915 700	2,486,000			33 98	636 93	670 91
March	31		1,641,200	1,296,900	2,938,100			276 12	428 31	704 43
April	24	733,600	913,000	536,500	2,183,100			69 40	468 21	537 61
May	52	1,881,600	1,954,000	1,524.500	5,360,100			44 98	1,318 08	1,363 06
June	40	1,225,900	1,564,400	1,133,800	3,924,100			98 82	982 63	991 45
Totals	22,269	427,593,050	529,060,055	363,504,995	1,320,158,100	$16,249 82	$105,521 74	$84,907 83	$4,682 06	$211,361 45

TABLE No. 11.

Destination of Road Metal Crushed and Shipped from June 11, 1896, to June 30, 1910.

Cars.	Destination.	Weight in Pounds.
9	Antioch	561,720
15	Alder Creek	932,650
75	Armstrong Switch	5,056,650
37	Acampo	1,870,250
66	Alameda Point	3,825,900
6	Alta	336,000
91	Auburn	5,157,350
4	Antelope	394,900
3	Benicia	194,400
9	Ben Ali	479,850
8	Brighton	477,750
9	Buhach Switch	506,950
2	Bruceville	99,450
20	Bakersfield	1,127,100
71	Byron	4,285,450
7	Bogue's Spur	390.350
10	Clipper Gap	721,350
3	Ceres	220,600
7	Colfax	402,750
7	Camino	520,000
2	Cromwell	118,150
1	Centerville	97,300
6	Dutch Flat	336,900
3	Davisville	207,600
86	Dixon	5,475.200
5	Dredge	320,000
3	Dos Palos	185,300
126	Elk Grove	8,270,900
23	Elvis	1,479,400
2	Elmwood	116,250
6	El Pinal	422.800
2	Emery	126,600
----	Forest Grove (wagon load)	16,000
47	Florin	2,909.050
118	Folsom	7,378,850
42	Folsom State Hospital	2,235,000
11	Fair Oaks	820,000
4	Galt	242,800
22	Guthrie Station	1,347.350
16	Grass Valley	969,400
8	Galston	453,750
771	Homestead	40,544.745
7	Hornbrook	613,100
91	Knights Landing	5,378,550
213	Lodi	14,235,435
1	Lomo	52 600
3	Lathrop	189,950
1,231	Marysville	69,314,410
116	Modesto	6,810,750
6	McConnell	340,100
3	Mills	150,000
14	Madera	823,550
27	Martinez	1,545,900
2	Marcuse	123.200
2	Manlove	153,400
1	Manteca	67,000
1	Mayhew	40,000
75	Napa	4,183.150
11	Newcastle	761,450
4	Oswald	217,850
2	Orchard Switch	110,000
8	Ostrom's	445,250
4	Oakland	333,800
58	Placerville	3,600,350
10	Perkins	558,880

TABLE No. 11—*Continued.*

Cars.	Destination.	Weight in Pounds.
5	Port Costa	275,450
1	Pinogrande	80,000
32	Roseville	1,679,200
2	Reed's Station	115,205
9	Richmond	581,400
3	Ripon	167,400
8,636	Sacramento	506,062,910
6,112	Stockton	352,830,995
3,282	Southern Pacific Company	213,830,680
1	Suisun	48,750
111	State Prison at Folsom	5,242,000
2	Swingle	133,900
79	Sonora	5,419,950
3	Tudor	171,300
21	Turlock	1,215,550
1	Towle	55,350
13	Vacaville	714,850
8	Vallejo	445,750
5	Victor	298,600
9	Washington	499,800
8	Wheatland	538,300
69½	Woodlawn	3,990,930
2	West Spur	95,300
12	Woodbridge	761,400
48	Walerga	4,719,500
133	Yuba City	7,626,840
9	Urgon	853,350
22,269	Total	1,320,158,100

CAPTAIN OF THE GUARD'S REPORT.

State Prison at Folsom, July 1, 1910.

Hon. W. H. Reilly, *Warden of State Prison at Folsom, Cal.*

Sir: I herewith render my report for the past two years, to wit: July 1, 1908, to July 1, 1910.

You will find hereto attached a tabulated statement of the labor report of all departments for each and every month, also a statement of labor lost during said time, and average daily population each month.

You will note in the statement that the greater amount of lost labor comes in the months of November, December, and January, the winter months, as the prisoners are not worked when it is raining.

Respectfully submitted.

JAMES RUSSELL,
Captain of Guard.

LABOR REPORT.

	1908						1909.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.
Captain's department—												
Barbers	171	172	178	215	211	187	222	200	199	201	221	228
Clerks	214	217	218	217	204	214	214	196	217	223	222	239
Gate tenders	337	337	332	326	276	242	285	301	323	322	331	324
House servants	420	409	401	430	407	290	410	375	396	405	419	415
Riggers	194	196	182	160	158	131	155	135	145	150	153	147
Trainmen	56	57	56	58	56	58	61	56	65	66	62	60
Trackmen	139	127	135	165	130	85	85	107	123	133	153	152
Commissary department—												
Commissary	302	300	301	325	284	292	302	280	304	296	306	301
Harness shop	26	26	26	27	23	26	25	24	26	26	26	26
Shoe shop	312	312	324	350	310	295	344	312	334	326	335	324
Tailor shop	434	432	461	485	436	356	425	452	515	512	513	489
Engineers' department												
Electricians	93	93	90	94	115	90	123	119	94	90	93	120
General utility	374	388	375	394	364	347	402	381	393	385	392	410
Machinists	179	182	165	170	168	165	180	168	180	171	181	177
Plumbers	90	92	90	90	84	86	91	84	91	90	93	89
Sewage plant	52	60	54	62	56	54	60	56	60	56	58	60
Turnkey's department—												
Call tenders	1,274	1,285	1,239	1,273	1,174	1,179	1,203	1,175	1,237	1,142	1,134	1,171
Library	26	26	26	22	23	27	26	25	28	30	31	30
Scavengers	116	124	120	124	120	124	119	112	124	120	124	120
Whitewashers	156	156	159	168	138	83	52	56	62	102	259	203
Farm department—												
Chicken ranch	31	31	30	31	30	31	31	38	31	30	31	30
Dairy	62	63	60	62	61	60	62	56	62	60	62	84
Ranch	239	236	213	204	136	160	150	190	222	202	248	203
Vegetable garden	302	316	305	315	250	188	180	231	278	291	308	318
Teamsters	187	185	180	185	174	167	187	168	177	180	186	150
Overseer's department—												
Bedmakers	155	155	150	155	145	151	155	140	150	150	155	150
Bookbinders	26	29	30	31	27	30	30	28	31	30	31	30
Clerks	213	186	180	192	186	179	198	168	183	180	186	177
Carpenters	82	78	104	112	96	87	106	108	118	115	124	115
Flower garden	867	865	845	899	755	589	581	643	811	780	815	792
Horseshoers	52	52	52	54	46	40	52	48	54	52	52	55

LABOR REPORT—*Continued.*

	1908.						1909.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.
Overseer's department—Continued.												
Lamp tenders	31	31	30	31	30	31	31	28	31	30	31	30
Laundries	1,263	1,300	1,305	1,358	1,121	1,128	1,329	1,272	1,260	1,292	1,385	1,343
Painters	56	104	103	110	94	82	54	56	60	73	88	88
Photographers	30	31	30	31	28	29	30	28	31	30	31	30
Sawmill	78	78	78	81	69	70	75	72	80	77	78	84
Scavengers	135	150	156	186	168	150	205	184	208	199	207	179
Tin shop	52	52	52	56	58	67	83	79	88	86	88	88
Stock department—												
Stable	253	231	242	239	237	224	248	224	224	196	245	253
Prison mess—												
Cooks	1,147	1,149	1,089	1,061	1,099	1,088	1,087	998	1,107	1,059	1,052	1,010
Waiters	1,023	1,074	1,057	1,063	996	1,029	1,079	1,011	1,109	1,070	1,107	1,024
Quarry department—												
Barbers	78	78	78	81	68	61	62	67	77	78	78	78
Blacksmiths	1,075	1,092	1,096	1,083	961	938	923	1,041	1,354	1,431	1,452	1,5 31
Drillers	930	895	968	1,029	763	559	458	609	833	929	924	790
Engineers	208	208	208	243	196	129	126	154	211	259	260	260
Laborers	1,971	1,954	1,798	1,944	1,827	1,409	1,212	1,959	2,373	2,282	2,212	2,245
Stone yard	2,496	2,521	2,753	3,019	2,403	1,793	1,531	2,126	2,869	3,364	3,336	3,337
Rock-crusher—												
Barbers	26	26	26	27	23	25	31	23	26	26	26	47
Blasters	104	104	104	108	92	72	100	96	102	104	104	100
Blacksmiths	104	104	104	108	87	72	70	83	68	52	52	74
Carpenters	26	26	26	27	23	21	25	24	26	26	26	26
Drillers	312	364	286	297	237	187	168	228	288	270	312	294
Engineers	52	52	52	54	44	36	50	48	51	52	52	26
General utility	390	390	363	378	325	238	285	309	324	248	260	375
Laborers	1,377	1,394	1,324	1,372	1,155	796	717	981	909	1,008	994	916
Clerk's office	120	124	120	94	87	93	93	84	89	90	113	120
Hospital help	124	124	120	124	120	124	124	112	124	120	124	150
Officers' and guards' mess	392	403	390	403	390	403	403	364	402	394	403	389
Prison improvements	3,154	3,049	2,849	3,016	2,481	1,815	1,627	2,006	2,409	2,394	2,316	2,547
Warden's help	186	186	180	186	177	185	186	173	301	180	189	180
Specials	78	78	75	90	69	67	77	83	87	110	114	122
Asylum	873	902	873	855	669	485	400	558	713	773	794	837
Wall	967	907	902	926	671	517	424	582	767	799	796	456

Lost labor—												
Condemned	186	178	150	155	150	155	155	150	154	149	124	120
Doctor's excuses	362	269	357	289	337	207	198	249	342	363	348	552
Hospital patients	190	186	124	182	230	237	239	280	348	339	386	400
Incapables	288	332	410	452	409	440	455	336	328	405	389	295
Solitary	205	261	286	396	244	245	448	242	238	457	317	299
Unassigned	46	69	51	67	43	49	73	122	76	152	152	158
Wet and holidays	3,655	3,490	2,841	2,899	5,901	10,095	9,986	5,051	4,341	2,673	3,346	2,598
Total	31,224	31,153	30,137	31,515	30,728	31,364	31,381	28,504	31,361	30,555	31,615	30,730
Days' labor performed	26,292	26,368	25,918	27,075	23,414	19,936	19,827	22,084	25,534	26,017	26,553	26,308
Days' labor lost	4,932	4,785	4,219	4,440	7,314	11,428	11,554	6,420	5,827	4,538	5,062	4,422
Labor performed per day	848.13	850.58	864.00	873.4	780.46	643.09	639,58	788.71	823.68	867.24	856.54	876.93
Labor lost per day	159.09	154.35	140.5	143.2	243.80	368.65	372.64	229.29	187.96	151.26	163.29	147.40
Average daily population	1007.22	1004.93	1004.5	1016.16	1024.26	1011.74	1012.22	1018	1011.64	1018.50	1019.83	1024.33

	1909.						1910.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.
Captain's department—												
Barbers	212	222	224	228	220	224	210	204	232	219	228	224
Clerks	257	267	240	247	232	228	235	216	259	260	255	236
Gate tenders	322	333	323	330	316	309	307	300	333	320	331	322
House servants	373	327	302	297	267	216	207	191	199	180	202	218
Riggers	149	150	114	142	132	136	148	153	166	142	170	142
Trainmen	57	57	59	62	58	57	56	56	62	60	62	60
Trackmen	156	141	156	149	126	150	110	160	190	178	130	164
Commissary department—												
Commissary	309	300	297	306	294	277	263	277	286	302	306	297
Harness shop	26	26	26	26	25	25	22	24	27	26	26	26
Shoe shop	350	338	337	352	347	351	305	325	376	366	374	391
Tailor shop	484	478	483	506	472	450	390	417	470	444	412	383
Engineer's department—												
Electricians	123	113	120	124	120	116	129	137	155	150	157	183
General utility	458	491	412	430	391	383	353	349	389	392	397	371
Machinists	177	204	198	204	171	150	130	135	148	176	161	169
Plumbers	83	91	90	93	87	86	84	83	93	90	93	90
Sewage plant	60	64	90	93	87	84	78	83	93	90	93	89

LABOR REPORT—*Continued.*

	1908.						1909.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.
Turnkey's department—												
Cell tenders	1,169	1,181	1,194	1,226	1,164	1,213	1,121	1,032	1,118	1,078	1,128	1,083
Library	31	31	30	31	30	31	31	38	45	60	62	60
Scavengers	109	93	90	93	90	91	93	84	93	98	122	114
Whitewashers	182	132	95	245	240	159	93	60	62	60	206	268
Farm department—												
Chicken ranch	31	31	30	31	30	31	31	28	31	30	31	33
Dairy	93	93	91	93	90	93	93	84	93	90	93	90
Ranch	207	237	243	215	219	148	182	244	255	302	397	431
Vegetable garden	342	367	335	317	314	232	238	302	418	397	407	390
Teamsters	150	152	141	123	120	111	112	112	123	113	124	120
Overseer's department—												
Bedmakers	155	155	150	158	152	147	151	138	155	157	155	160
Bookbinders	31	31	30	31	30	29	31	28	31	30	31	30
Clerks	185	186	180	191	180	182	186	168	186	180	186	180
Carpenters	125	190	198	189	123	108	107	110	121	120	93	118
Flower garden	791	891	906	809	764	701	667	686	889	896	1,010	955
Hors shoers	52	58	52	52	50	50	45	56	54	52	52	52
Lamp tenders	29	31	30	31	30	30	31	28	31	30	31	30
Laundries	1,390	1,380	1,364	1,323	1,264	1,201	1,140	1,208	1,394	1,320	1,338	1,309
Painters	89	118	142	149	141	135	114	109	173	174	157	150
Photographers	31	31	30	31	30	29	31	28	31	30	31	30
Sawmill	78	78	75	78	75	78	69	71	84	78	78	78
Scavengers	162	177	175	180	173	160	163	163	185	192	207	202
Tin shop	84	86	60	62	60	56	81	83	93	90	93	128
Stock department—												
Stable	248	267	247	280	270	243	237	220	294	270	296	296
Prison mess—												
Cooks	1,057	1,055	1,043	1,060	1,025	1,106	1,067	1,090	1,116	1,089	1,105	1,080
Waiters	1,092	1,080	1,054	1,106	1,094	1,155	1,124	1,026	1,141	1,079	1,101	1,075
Quarry department—												
Barbers	78	78	78	77	73	68	65	65	81	102	104	104
Blacksmiths	1,562	1,557	1,571	1,573	1,509	1,378	1,125	1,290	1,618	1,567	1,563	1,612
Drillers	773	597	624	482	362	304	320	398	556	600	623	624
Engineers	260	260	260	256	238	211	207	190	265	255	260	260

Laborers	2,340	2,541	2,350	2,064	2,122	1,819	1,822	1,623	2,396	2,307	2,235	2,210
Stone yard	3,307	3,262	3,325	3,115	2,900	2,320	2,491	2,387	3,192	3,086	2,876	2,803
Rock-crusher—												
Barbers	51	23	26	25	25	24	21	24	27	26	26	26
Blasters	104	100	81	78	75	75	66	71	81	78	78	78
Blacksmiths	76	72	78	74	74	82	76	65	77	78	91	104
Carpenters	26	26	26	26	25	25	22	21	27	26	26	26
Drillers	302	290	324	217	266	243	288	279	395	373	339	329
Engineers	25	26	25	24	22	17	21	20	25	21	12	25
General utility	359	360	357	345	323	299	295	284	363	360	342	368
Laborers	791	719	737	1,321	1,329	1,004	1,065	1,049	1,157	1,173	1,135	1,229
Clerk's office	120	124	120	124	120	124	124	112	111	90	93	90
Hospital help	126	90	60	96	120	124	124	112	124	120	124	132
Officers' and guards' mess	402	403	390	398	367	373	375	336	373	360	372	367
Prison improvements	2,497	2,357	2,520	2,272	2,204	1,825	1,921	1,862	2,520	2,498	2,476	2,540
Warden's help	186	186	180	186	180	188	186	168	186	180	186	167
Specials	119	118	128	115	90	88	105	97	124	120	182	180
Asylum	814	772	811	790	786	702	704	704	941	912	941	927
Wall	562	554	563	471	301	330	381	399	524	516	551	488
Lost labor—												
Condemned	124	124	120	124	128	155	147	140	155	150	155	150
Doctor's excuses	491	445	319	285	190	224	183	210	326	293	404	231
Hospital patients	445	292	144	268	357	416	366	360	411	379	414	415
Incapables	413	553	501	412	411	364	420	379	408	378	446	372
Solitary	340	442	369	332	224	224	225	212	180	292	344	279
Unassigned	107	211	207	192	134	180	243	173	144	118	123	119
Wet and holidays	3 423	3,224	2,620	4,277	5,155	6,815	7,115	5,044	2,889	2,886	3,130	2,467
Totals	31,732	31,539	30,370	31,612	30,213	30.764	30,759	28,260	31,370	30,754	31,602	30,549
Days' labor performed	26,389	26,248	26,090	25,822	24,614	22,386	22,069	21,742	26,857	26,258	26,586	26,516
Days' labor lost	5,343	5,291	4,280	5,790	5,599	8.378	8,690	6,518	4.513	4,496	5,016	4,033
Labor performed per day	851 26	846.71	869.66	832.97	820.47	722.13	711.90	776.50	866.35	875.26	857.61	883.86
Labor lost per day	172.35	170.67	142.67	186.77	186 63	270.25	280.32	232.78	145.58	149.87	161.80	134.44
Daily average population	1,023.61	1,017.38	1,012.33	1,019.74	1,007.10	992.38	992 22	1,009.28	1,011.93	1,025.13	1,019.41	1,018.30

PHYSICIAN'S REPORT.

STATE PRISON AT FOLSOM, June 30, 1910.

To HON. W. H. REILLY, *Warden of State Prison at Folsom, Cal.*

SIR: I herewith submit report of prisoners treated by the Resident Physician of the State Prison at Folsom for the year ending June 30, 1910, showing all transactions in the Medical Department.

Respectfully submitted.

A. E. INGERSOLL,
Resident Physician.

TABLE No. 1.

Number of cases treated during the fiscal year ending June 30, 1910, including office calls and cases treated in the hospital, number excused from daily labor on account of illness, and number of deaths.

	1909.						1910.						Total......
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
Medical cases.													
Asthma	11	12	12	17	30	23	21	12	12	16	8	6	180
Biliousness	173	155	143	181	148	112	105	128	97	240	223	180	1,885
Boils	9	20	50	-----	20	9	18	6	5	6	30	10	183
Bronchitis	8	23	42	91	61	61	59	90	50	50	20	20	575
Catarrh, nasal	7	30	18	90	10	16	15	11	8	6	18	11	240
Consumption	13	60	27	120	42	90	89	120	18	80	120	113	892
Conjunctivitis	17	31	30	37	17	7	2	10	20	30	35	16	252
Cephalagia	8	62	60	30	36	29	30	60	30	32	17	11	405
Colds	-----	-----	-----	-----	97	-----	-----	-----	169	97	-----	-----	363
Coughs	61	124	81	-----	-----	150	142	114	152	90	109	137	1,160
Diarrhœa	18	12	10	15	43	28	27	18	39	68	49	62	389
Diet	170	155	90	150	60	90	80	90	60	56	60	60	1,121
Dysuria	-----	-----	-----	-----	18	-----	-----	-----	11	-----	-----	-----	29
Felons	-----	10	30	10	30	30	-----	9	6	-----	30	10	165
Gleet	1	-----	-----	-----	6	-----	-----	-----	3	4	8	-----	22
Gonorrhœa	-----	-----	-----	-----	-----	5	2	-----	-----	-----	-----	-----	7
Heart disease	10	9	10	12	7	5	7	2	10	10	9	9	100
Hemorrhoids	42	-----	29	6	13	17	9	9	35	15	15	2	192
Hernia	3	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	4
Indigestion	41	84	83	70	30	55	58	38	80	120	198	81	938
Kidney complaint	10	3	20	6	7	2	5	3	11	1	20	3	91
Malaria	182	180	100	24	20	-----	10	7	10	20	100	70	723
Measles	71	20	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	91
Neuralgia	53	62	18	18	20	9	5	23	32	28	41	18	327
Otalgia	3	16	10	11	13	12	5	12	18	12	8	10	135
Odontalgia	5	35	33	26	8	20	14	17	29	29	20	22	258
Phthisis	93	20	10	43	73	60	60	48	14	90	150	150	911
Rheumatism	61	60	18	33	57	27	26	31	46	-----	60	32	451
Skin disease	-----	-----	-----	18	-----	-----	-----	-----	-----	-----	-----	-----	18
Sprains	21	5	13	-----	18	37	18	61	22	8	32	16	251
Syphilis	135	48	61	118	120	90	80	32	22	150	57	90	1,003
Tape worm	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	1
Unclassified	4	9	10	-----	-----	-----	-----	-----	-----	-----	-----	-----	23
Surgical cases.													
Amputation (fingers)	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	1	-----	2
Appendicitis	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	1
Boils	2	8	10	-----	7	2	2	2	3	6	1	8	51
Cancer	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----	-----	2
Eye removed	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	1
Felons	-----	8	1	5	3	1	-----	1	3	-----	7	4	33
Fractures	5	1	-----	-----	-----	1	1	-----	-----	-----	-----	-----	8
Foreign bodies removed	8	8	18	16	14	7	23	21	11	8	15	12	161
Hemorrhoids	-----	2	-----	2	-----	1	-----	2	-----	1	1	1	10
Hernia	-----	1	-----	-----	1	-----	1	1	-----	-----	-----	-----	4
Kidney removed	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	1
Necrosis of cranial bone	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1
Necrosis of sternum	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1
Teeth extracted	14	26	15	11	9	12	7	7	8	13	10	15	147
Wounds contused	73	21	16	5	90	90	90	20	65	40	18	90	618
Wounds incised	27	17	90	60	120	68	115	54	41	51	90	131	864
Wens	-----	-----	-----	-----	-----	-----	-----	2	-----	2	-----	-----	4
Unclassified	-----	-----	5	-----	-----	-----	-----	-----	-----	-----	-----	1	6
Totals by months	1,360	1,338	1,163	1,225	1,249	1,166	1,126	1,062	1,140	1,382	1,583	1,406	15,200

TABLE No. 1—*Continued.*

Number of cases treated during the fiscal year ending June 30, 1910, including office calls and cases treated in the hospital, number excused from daily labor on account of illness, and number of deaths.

Total number treated	15,200
Total number excused from daily labor	3,473
Daily average treated	42
Daily average excused	9
Death report	7

Hospital Register.

Number of inmates July 1, 1909	19
Number admitted during year	87
Number discharged	90
Number on hand June 30, 1910	16

TABLE No. 2.

Deaths—July 1, 1909, to June 30, 1910.

Date.	Number and name.	Age.	Cause of death.
1909—July 16	5279 Felipe Ortez	32	General debility.
Aug. 18	5470 A. L. Castro	43	Meningitis.
Aug 25	7314 James White	34	Acute nephritis.
Sept. 30	5867 R. Padilla	34	Pulmonary tuberculosis.
Dec 21	7077 M. Getts	47	Nephritis.
1910—Feb. 5	7014 J. Escovar	32	Pulmonary tuberculosis.
Apr. 16	7158 A. R. Thomas	56	Asthma and epilepsy.

Total number of deaths 7

GENERAL OVERSEER'S REPORT.

REPRESA, SACRAMENTO COUNTY, July 1, 1910.

To HON. W. H. REILLY, *Warden of State Prison at Folsom, Cal.*

SIR: I have the honor to submit herewith my biennial report, in tabular form, for the sixtieth and sixty-first fiscal years commencing July 1, 1908, and ending June 30, 1910.

Respectfully.

J. A. AGUIRRE,
General Overseer.

TABLE

Prison

	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891
Received.											
By commitment	96	85	131	217	230	225	150	152	241	265	197
Returned witnesses	2	1	9	4	6	2	4	2	5	6	7
Pardons revoked			1								
Paroles revoked											
Escapes recaptured	2	5		3	1	3	3	3	3	2	6
Returned from asylum								1	1	1	
United States prisoners					1		1	1	1	2	
By order of court			2	2	2	1				1	
By transfer from San Quentin	253	60		50	2	4	1	7	11	51	1
Returned with additional commitment											
Resentenced and returned											
Returned on writ											
Returned from industrial school											
Commutation revoked											
Totals	353	151	143	276	242	235	159	166	262	328	211
Discharged.											
Per act	36	114	93	75	48	42	69	80	23	42	41
Per act and restored					32	71	80	88	83	93	97
Paroled											
Pardoned	1	3	11	11	11	1	8	4	9	1	7
Escaped	6	4	4	6	4	2	2	2	3	3	5
Suicided	1			1	1	2	1				
As witness	2	2	9	4	6	2	4	2	5	6	7
By commutation		1	8	3	22	16	13	1	1	2	1
For new trial	1	4	1	2	5	4	2		1	4	1
Died and killed	3	6	13	7	7	7	15	7	6	3	15
By order of court	3	2								1	
Conditionally pardoned	1		1	1	3						
Pardoned by the President											1
By writ of probable cause				1	2						
By writ of habeas corpus			2	3	1			1		1	
Killed by fellow prisoner		1									
Transferred to San Quentin					3	3	4	157		50	
United States prisoners											3
By certificate of probable cause								1		1	
Killed while attempting to escape	1	1			1					1	
For trial on additional charge	1										
For trial on new charge				2	1					1	
Transferred to insane asylum		1	2	2		2		7	3	3	6
Credits restored											
For resentence											
Executed											
Transferred to industrial school											
Drowned while attempting to escape											
Transferred to Leavenworth, United States prisoners											
Totals	56	139	144	118	147	152	198	350	134	212	184

No. 1.

Account.

1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Total.
237	210	263	326	338	274	297	173	188	153	219	226	345	403	312	255	281	324	276	7,089
7	8	8	7	12	12	4	29	2	2	21	2	42	6	8	4	3	3	3	231
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1
----	----	----	----	----	----	1	----	----	----	----	----	----	1	2	2	----	4	11	21
3	2	----	----	----	2	----	----	----	2	----	5	4	1	2	----	----	2	----	54
1	1	----	1	1	1	----	1	----	----	1	1	1	----	1	----	1	----	----	14
6	15	----	11	3	1	1	1	3	----	----	2	5	7	9	3	----	2	1	76
----	----	2	1	1	1	----	2	----	3	5	----	3	3	----	----	----	4	----	33
4	3	4	----	3	4	----	----	----	1	----	1	1	3	----	3	1	----	----	468
1	2	----	----	----	----	----	----	----	----	1	1	1	2	----	----	----	----	----	8
----	----	----	----	----	----	1	----	1	1	----	----	2	1	3	----	1	----	1	11
----	----	----	----	----	----	----	----	----	----	----	----	2	1	2	2	1	1	1	10
----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	1	----	2
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	1
259	241	277	346	358	295	304	206	194	162	247	238	406	428	340	269	288	342	293	8,019
52	56	68	53	75	123	138	153	179	183	160	124	112	101	154	132	142	129	104	2,901
133	176	140	138	153	133	108	62	26	16	9	35	82	101	99	94	86	100	91	2,326
----	----	4	3	4	----	8	5	1	4	3	6	10	19	15	12	49	58	82	283
3	----	1	3	2	----	----	----	----	1	1	1	1	----	----	1	3	2	1	87
2	2	----	3	2	----	2	----	1	4	1	7	14	----	2	----	----	2	1	84
----	----	----	----	----	----	1	----	----	1	----	----	----	1	----	1	----	1	----	11
8	8	8	7	12	12	4	29	2	2	21	2	43	6	8	4	3	3	3	234
6	1	2	4	----	----	1	1	----	----	----	----	4	6	3	3	2	1	----	102
4	3	3	3	5	1	2	6	----	2	1	1	1	----	2	1	1	----	----	61
12	9	6	9	7	1	14	12	7	14	10	8	11	6	12	19	10	10	7	273
1	----	3	----	1	3	----	1	1	4	5	3	4	----	1	----	2	6	2	43
----	----	----	----	----	----	----	----	----	----	----	----	2	----	----	----	----	----	----	8
----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2
----	----	----	----	----	----	----	----	----	----	----	----	2	2	----	----	----	----	----	7
----	----	----	1	----	2	----	3	----	1	----	----	----	----	2	2	2	1	1	23
----	----	----	----	----	----	----	2	----	1	----	----	----	----	----	----	----	----	----	4
----	6	----	2	24	----	----	----	----	----	----	1	6	1	50	----	----	----	----	307
----	14	----	1	3	3	8	1	4	5	1	1	1	3	3	4	----	3	1	59
1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3
----	4	----	----	----	----	1	----	----	----	1	----	1	3	----	----	----	----	----	14
----	----	----	----	----	----	----	----	1	----	1	1	4	5	----	----	----	1	----	14
----	----	----	----	----	----	----	2	----	1	----	----	----	----	----	----	----	----	----	7
4	3	1	3	1	2	----	2	4	2	4	5	2	1	3	----	3	3	5	74
----	----	----	----	----	----	1	----	----	1	1	1	3	7	3	8	6	----	3	34
----	----	----	----	----	----	1	----	1	1	----	----	2	1	3	----	1	----	----	10
----	----	----	----	4	3	4	----	1	1	----	1	2	2	4	1	----	1	----	24
----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	1	----	2
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	1
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	5
226	282	237	230	293	283	293	279	228	244	219	197	307	266	364	283	310	322	306	7,003

TABLE No. 2.

Recapitulation of Received and Discharged Prisoners from July 1, 1908, to June 30, 1910.

Month.	Received.														Discharged.																			
	By commitment	Returned on writ	Returned with additional commitment	Witness returned	By order of court	United States prisoners	From insane asylum	From San Quentin	Escapes returned	Resentenced and returned	From industrial school	Paroles revoked	Commutation revoked	Total	Per act	Per act and restored	Paroled	By commutation	Pardoned	On writ	As witness	By order of court	Died and killed	Transferred to asylum	For trial on additional charge	Transferred to industrial school	Suicided	Escaped	Executed	United States prisoners	Credits restored	Transferred to Leavenworth, U. S. prisoners	Total
1908—July	17										1			18	10	2	3	1								1				1			18
August	18													18	12	7	5						1	1									26
September	19												1	20	7	6							1							1			15
October	37				1	2								40	8	7	5					1											21
November	22	1												23	7	11	7			1	1		1										28
December	21			1								1		23	17	9	4													1			31
1909—January	35			1								1		37	18	14	2				2	1	1										38
February	33			1										34	10	11	3		1						1								26
March	28				2							1		31	17	13	6		1			2	2	1				2					44
April	39								2					41	10	9	3							1					1				24
May	26				1							1		28	8	4	9					1	2										24
June	29													29	[illegible]	7	11					1	2				1						27
July	22					1						2		25	[illegible]	4	13						1					1			1		28
August	12											2		14	13	9	4						2	1									29
September	21													21	9	5	2				1		1										18
October	30			1								2		33	17	8	1																26
November	14			1										15	8	9	16				1										1		35
December	17													17	7	6	9						1	2									25
1910—January	38			1						1				40	[illegible]	8	10				1	1										5	31
February	23													23	4	5	5						1										15
March	31											1		32	8	4	9							2									23
April	23	1										2		26	7	11	1			1			1								1		22
May	20											1		21	7	9	8													1			25
June	25											1		26	10	13	4		1			1											29
Totals	600	2	....	6	4	3	....	....	2	1	1	15	1	635	233	191	140	1	3	2	6	8	17	[illegible]	1	1	1	3	1	4	3	5	628

TABLE No. 3.

Recapitulation of Population.

Month.	Population for month.	Daily average.	Summary.
1908—July	31,224	1,007.22	
August	31,153	1,004.93	
September	30,137	1,004.56	
October	31,515	1,016.61	
November	30,728	1,024.26	
December	31,364	1,011.74	
Gross first half of fiscal year	186,121	6,069.32	1,011.52
1909—January	31,381	1,012.29	
February	28,504	1,018.	
March	31,361	1,011.64	
April	30,555	1,018.50	
May	31,615	1,019.83	
June	30,730	1,024.33	
Gross second half of fiscal year	184,146	6,104.59	1,017.38
1909—July	31,732	1,023.61	
August	31,539	1,017.38	
September	30,370	1,012.33	
October	31,612	1,019.74	
November	30,213	1,007.10	
December	30,764	992.38	
Gross first half of fiscal year	186,230	6,072.54	1,012.12
1910—January	30,759	992.22	
February	28,260	1,009.28	
March	31,370	1,011.93	
April	30,754	1,025.13	
May	31,602	1,019.41	
June	30,549	1,018.30	
Gross second half of fiscal year	183,294	6,076.27	1,012.67

TABLE No. 4.

Occupation of Prisoners when Received.

Occupation.	Received.	On hand.	Occupation.	Received.	On hand.
Accountant	2	2	Jeweler		2
Actor	2	2	Jockey	1	
Architect	1		Journalist		2
Artisan	1		Laborer	151	265
Author	1	1	Lather	2	2
Baker	6	22	Laundryman	10	14
Barber	16	21	Lawyer	1	1
Bartender	2	4	Machinist	16	23
Bellboy	3	3	Merchant	3	4
Blacksmith	7	10	Metal polisher	1	2
Blacksmith's helper	2		Miller		1
Bookbinder	1	1	Mill hand		1
Bookkeeper	17	19	Miner	14	20
Bootblack		2	Mining engineer	2	1
Boilermaker	2	7	Motorman		1
Boxmaker	2	3	Musician	2	4
Brakeman	4	6	Nurse	2	3
Bricklayer	2	1	Oiler	1	1
Butcher	5	5	Oil driller		1
Butler		2	Optician	1	1
Clerk	21	30	Orchardist		1
Carpenter	23	30	Painter	24	30
Candymaker	1	3	Pastry cook	1	2
Cabinetmaker	2	2	Photographer	1	1
Cooper		1	Plasterer	2	3
Cook	57	89	Plumber	5	5
Copyist		1	Porter	3	5
Coppersmith		2	Printer	4	11
Cotton weaver		1	Peddler	3	3
Chiropodist		1	Railroadman	3	10
Chauffeur	3	2	Rancher	9	20
Cigarmaker	3	2	Rigger	2	3
Clothes presser	3	3	Sailor	12	16
Cutler		1	Salesman	6	11
Dairyman	1	2	Saloon keeper	2	3
Dentist	4	3	Ship carpenter	1	2
Distiller	1	1	Shoecutter		1
Draftsman		1	Shoemaker	12	14
Electrician	11	11	Stenographer	2	2
Engineer	8	19	Stevedore		1
Engraver	1	1	Stockman		1
Farmer	12	17	Stonecutter	2	4
Fireman	16	17	Stonemason	1	2
Fisherman	1	2	Tailor	7	17
Gardener	3	4	Teacher	2	1
Glassblower	1	2	Teamster	31	53
Gunsmith		1	Telegrapher	4	9
Hardwood finisher		1	Tinner	2	5
Harnessmaker	1	5	Upholsterer	1	6
Hodcarrier		1	Vaquero	1	1
Horseshoer	1	3	Veterinarian		1
Hostler	4	11	Waiter	26	23
House servant		1	Wood carver	1	3
Iron and brass molder	2	5	Wood turner		1
Ironworker	1	7			
Janitor	1	2	Totals	635	1,016

TABLE No. 4—*Continued.*

Summary.

Received.				On hand.			
Professions	12	Laborers	151	Professions	12	Laborers	265
Business	56	Miscellaneous	153	Business	79	Miscellaneous	238
Mechanics	69			Mechanics	128		
Agriculturists	25			Agriculturists	44		
Tradesmen	169	Total	635	Tradesmen	250	Total	1,016

TABLE No. 5.

Number of Prisoners from each County.

County.	Received.	On hand.	County.	Received.	On hand.
Alameda	32	43	San Bernardino	20	32
Amador		5	San Diego	1	6
Butte	1	9	San Francisco	91	155
Calaveras	2	3	San Joaquin	40	78
Contra Costa	8	18	San Luis Obispo	3	2
El Dorado	2	6	San Mateo		4
Fresno	12	23	Santa Barbara	4	11
Glenn	1	2	Santa Clara	24	32
Inyo	3	2	Santa Cruz		2
Kern	14	32	Shasta	16	17
Lake	2	2	Sierra		1
Lassen	1	1	Siskiyou	6	7
Los Angeles	140	169	Solano	6	13
Madera	1	3	Sonoma	16	20
Marin	9	14	Stanislaus	7	13
Mariposa		1	Sutter	4	8
Mendocino		10	Tehama	5	15
Merced	4	7	Trinity		2
Modoc		2	Tulare	5	9
Monterey	1	7	Tuolumne	6	7
Napa	5	11	Ventura	7	8
Nevada	1	7	Yolo	5	12
Orange	4	5	Yuba	8	15
Placer	23	24	Northern Dist. of Calif.	3	
Plumas	2	4	Southern Dist. of Calif.	1	3
Riverside	4	9			
Sacramento	85	125	Totals	635	1,016

TABLE No. 6.

Nativity and Race of Prisoners.

Nativity.	Received.	On hand
Native born.		
Alabama	5	7
Alaska		1
Arizona	2	4
Arkansas	3	4
California	110	203
Colorado	11	15
Connecticut	2	1
District of Columbia	1	
Florida	1	1
Georgia	5	9
Hawaiian Islands	1	3
Idaho	2	2
Illinois	34	46
Indiana	12	17
Iowa	7	8
Kansas	11	14
Kentucky	15	23
Louisiana	6	8
Maine	3	4
Maryland	2	2
Massachusetts	11	23
Michigan	7	17
Minnesota	1	2
Mississippi	4	5
Missouri	20	31
Montana	1	2
Nebraska	3	4
Nevada	6	11
New Hampshire	1	1
New Jersey	4	5
New York	36	61
North Carolina	2	2
North Dakota	2	2
Ohio	17	28
Oklahoma		2
Oregon	2	5
Pennsylvania	20	29
Porto Rico	1	1
Rhode Island		1
South Carolina	2	9
Tennessee	4	8
Texas	21	26
Utah	2	3
Vermont	2	3
Virginia	6	13
Washington	3	4
West Virginia	4	6
Wisconsin	9	12
Wyoming	1	
Guam		1
Phillipine Islands	2	3
Totals	427	692

Nativity.	Received.	On hand.
Foreign born.		
At sea		2
Africa	1	1
Austria	13	20
Australia	4	7
Belgium	1	1
Canada	10	5
Chili		3
China	3	17
Cuba	2	2
Denmark	5	6
East Indies		2
England	16	31
France	4	7
Germany	34	46
Greece	3	3
Hungary	1	1
Ireland	11	19
Italy	28	37
Jamaica		1
Japan	5	10
Mexico	54	79
New Zealand		1
Norway		2
Panama		1
Peru	2	
Portugal	2	3
Russia	1	2
Scotland	2	4
South America		2
South Africa	1	1
Spain	1	1
Sweden	3	4
Switzerland	1	3
Totals	208	324

Nativity.	Received.	On hand.
Races.		
Caucasian	561	871
Indian	6	19
Malays		4
Mongolians	13	33
Negroes	55	89
Totals	635	1,016

TABLE No. 6—*Continued.*

Summary.

	Received.	On hand.
Percentage native born	.672	.681
Percentage foreign born	.328	.319
Percentage born in United States proper	.666	.673
Percentage born in United States possessions	.006	.008
Percentage born in America outside of United States	.108	.091
Percentage born in Asia	.198	.189
Percentage born in Africa	.013	.029
Percentage born in Europe	.003	.002
Percentage born in Australia	.006	.008

TABLE No. 7.

Classification of Crimes.

Crime.	Received.	On hand.
Arson	5	3
Arson, second degree	1	4
Arson, second, and prior	--------	1
Assault with deadly weapon	18	15
Abandoning his wife	1	1
Assault with deadly weapon while serving a life sentence	3	5
Assault to murder	8	25
Assault to murder, and prior	--------	2
Assault to rape	2	6
Assault to do bodily injury	1	1
Assault to rob	4	13
Assault to rob, and prior	--------	1
Attempt to commit arson	--------	1
Attempt to commit burglary, first degree	2	2
Attempt to commit crime against nature	4	6
Attempt to pass fictitious check	1	2
Attempt to rob	5	8
Attempt to commit grand larceny	4	2
Attempt to rape	3	3
Bigamy	3	2
Bringing opium into state prison	--------	1
Burglary	38	46
Burglary, and prior	6	9
Burglary, first degree	85	145
Burglary, first degree, and prior	10	13
Burglary, second degree	99	99
Burglary, second degree, and prior	9	12
Child stealing	1	1
Crime against nature	2	14
Drawing a bank check with intent to defraud	4	4
Embezzlement	12	16
Extortion	1	1
Felony	17	7
Forgery	45	62
Forgery, and prior	2	4
Forgery, and two priors	--------	1
Forging United States postal money orders	--------	1
Grand larceny	86	115
Grand larceny, and prior	1	11
Grand larceny, and two priors	--------	2
Injuring a public jail	2	4
Kidnaping	1	1
Lascivious act with a child	3	7
Making and passing fictitious check, and two priors	--------	1
Maliciously burning house	--------	1
Manslaughter	16	23
Manslaughter, and prior	1	2
Mayhem	1	1
Murder	--------	4
Murder, first degree	9	60
Murder, second degree	6	28
Obtaining money and property by false pretenses	1	4
Passing a falsely altered obligation of the United States	1	--------
Passing fictitious check	18	18
Passing fictitious check, and prior	1	1
Perjury	1	1
Petit larceny, and prior	12	9
Receiving stolen property	3	3
Rape	17	46
Rape, and prior	--------	1
Robbery	53	115
Robbery, and prior	3	12
Robbery, and two priors	2	3
Robbery, and three priors	1	1
Robbery, and prior, and embezzlement	--------	1
Sending a threatening letter with intent to extort	--------	1
Violation of sections 2 and 11 of United States act 1884	--------	1
Totals	635	1,016

TABLE No. 8.

Age of Prisoners when Received.

Years.	Received.	On hand.	Years.	Received.	On hand.
Fifteen		1	Fifty	7	11
Sixteen		1	Fifty-one	1	7
Seventeen	5	12	Fifty-two	1	6
Eighteen	8	12	Fifty-three		4
Nineteen	26	40	Fifty-four	1	7
Twenty	30	40	Fifty-five	2	3
Twenty-one	25	34	Fifty-six	2	3
Twenty-two	26	52	Fifty-seven	3	6
Twenty-three	29	47	Fifty-eight	3	6
Twenty-four	35	60	Fifty-nine	3	3
Twenty-five	32	55	Sixty	2	4
Twenty-six	39	61	Sixty-one	1	5
Twenty-seven	38	43	Sixty-two	1	1
Twenty-eight	35	51	Sixty-three	2	3
Twenty-nine	24	38	Sixty-four		2
Thirty	21	40	Sixty-five		2
Thirty-one	15	20	Sixty-six		
Thirty-two	14	24	Sixty-seven		3
Thirty-three	21	28	Sixty-eight		
Thirty-four	18	31	Sixty-nine		1
Thirty-five	25	31	Seventy		1
Thirty-six	14	24	Seventy-one		
Thirty-seven	17	22	Seventy-two		1
Thirty-eight	15	24	Seventy-three		1
Thirty-nine	10	15	Seventy-four		1
Forty	14	19	Seventy-five		
Forty-one	8	12	Seventy-six		
Forty-two	9	14	Seventy-seven		
Forty-three	5	8	Seventy-eight	1	1
Forty-four	12	19	Seventy-nine		
Forty-five	7	12	Eighty		
Forty-six	4	9	Eighty-one	1	1
Forty-seven	9	13			
Forty-eight	6	8	Totals	635	1,016
Forty-nine	8	12			

TABLE No. 9.

Terms of Imprisonment.

Term.	Received.	On hand.	Term.	Received.	On hand.
Six months	2		Fifteen years	24	59
One year	42	21	Sixteen years		2
One year and one month	1		Seventeen years	1	5
One year and three months	2	2	Eighteen years	1	8
One year and six months	22	16	Nineteen years		1
One year and eight months	1	1	Twenty years	10	37
Two years	107	84	Twenty-one years	1	1
Two years and six months	9	6	Twenty-two years	1	2
Three years	83	84	Twenty-four years		1
Three years and six months	7	9	Twenty-five years	8	18
Four years	33	44	Twenty-nine years		1
Five years	93	139	Thirty years	4	16
Five years and six months		1	Thirty-two years	1	1
Six years	18	35	Thirty-five years	1	4
Seven years	27	39	Thirty-six years		1
Seven years and six months		2	Forty years	3	9
Eight years	23	46	Forty-three years	1	1
Nine years	8	18	Forty-five years		2
Nine years and six months		1	Fifty	4	8
Ten years	53	125	Seventy-five years	1	1
Eleven years		3	Ninety years		1
Twelve years	11	30	Ninety-nine years		1
Thirteen years	1	8	Life	18	90
Thirteen years and six months		1	Death	3	5
Fourteen years	10	26	Totals	635	1,016

TABLE No. 10—*Term.*

Prisoners serving—	Received.	On hand.
First term	478	674
Second term	99	225
Third term	37	72
Fourth term	12	28
Fifth term	5	7
Sixth term	1	5
Seventh term	1	2
Eighth term	2	2
Tenth term		1
Totals	635	1,016

TABLE No. 11—*Educational.*

System.	Received.	On hand.
College		3
Private	39	84
Public and private	92	176
Public	437	636
Self	3	15
None	64	102
Totals	635	1,016
Degree.		
Read and write	572	893
Read, cannot write	1	10
Neither read nor write	62	113
Totals	635	1,016

TABLE No. 12—*Religion.*

Belief.	Received.	On hand.
Catholic	277	474
Protestant	269	387
Hebrew	9	11
Pagan	9	29
Irreligious	71	115
Totals	635	1,016

Protestants on hand classified according to denomination.

Methodists	108	Minor sects	14
Baptists	62	Unitarians	3
Episcopalians	53	Free Thinkers	2
Presbyterians	46	No denomination	51
Lutherans	31		
Congregationalists	17	Totals	387

TABLE No. 13.

Clothing Report.

Month.	Issues.													Manufactures.						
	Citizens'—			Hats	Shoes	S. P. pants	S. P. shirts	Drawers	Undershirts	Hickory shirts	Socks	Red shirts	S. P. coats	Shoes	S. P. pants	S. P. shirts	Drawers	Undershirts	Hickory shirts	S. P. coats
	Coats	Vests	Pants																	
1908—July	15	15	15	155	120	174	170			45	383			150	184	160			36	
August	21	21	21	123	102	171	131			40	341			148	108	132			42	
September	15	15	15	207	123	184	178			36	360			130	228	150			42	
October	16	16	16	187	134	222	200	1,744	1,744	30	426		158	142	248	260	1,914	1,780	20	226
November	24	24	24	170	142	199	184	38	38	40	372	1	23	144	156	140			50	68
December	24	24	24	149	131	219	186	42	42	27	434		23	110	200	180		150	35	
1909—January	36	36	36	147	128	175	225	70	77	26	401		37	100	206	240	83		10	
February	23	23	23	223	125	185	182	64	64	20	325		34	125	163	230	165	210	40	35
March	32	32	32	157	152	190	182	58	58	25	419		31	170	188	160			20	59
April	21	21	21	204	184	221	223	84	84	25	412		41	140	210	190			10	
May	11	11	11	187	151	203	176	52	52	44	391	2	28	140	180	180			20	
June	12	12	12	80	89	113	159	2	16	28	404	1		110	180	160			50	
July	17	17	17	146	146	202	209			35	404			125	190	180			20	
August	25	25	25	9	154	201	146		20	36	376			180	150	170		30	60	
September	17	17	17	308	61	161	154	1,694	1,736	27	360			70	185	160	2,046	1,948	70	
October	25	25	25	281	154	196	191	44	44	41	456		131	110	211	195			20	162
November	21	21	21	116	135	160	163	28	28	23	348		9	140	221	220			10	2
December	19	19	19	132	85	235	223	34	34	19	413	1	13	95	182	160			30	30
1910—January	16	16	16	138	119	165	178	38	38	12	421		11	130	170	190	135		20	12
February	9	9	9	149	142	191	187	23	23	11	391		16	130	190	190		120	10	
March	14	14	14	130	85	167	156	64	64	2	315		18	110	190	150			20	24
April	19	19	19	151	154	175	220	50	50	38	392		13	126	210	200	75		10	
May	17	17	17	167	97	216	139	20	20	35	348	4	19	100	159	180			50	
June	18	18	18	24	103	181	179			52	332			97	174	161			60	
Totals	467	467	467	3,740	3,016	4,506	4,341	4,149	4 232	717	9,224	9	605	3,022	4,483	4,338	4,418	4,238	755	618

REPORT

OF THE

STATE BOARD OF PRISON DIRECTORS

OF THE

STATE OF CALIFORNIA

UPON A

PROPOSED REFORMATORY FOR ADULT OFFENDERS

DECEMBER, 1910.

SACRAMENTO:
W. W. SHANNON - - - - - - - - Superintendent State Printing
1910.

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Suggested draft of act to establish a reformatory for adult first offenders.

REPORT OF STATE BOARD OF PRISON DIRECTORS.

San Francisco, Cal., December 16, 1910.

To His Excellency, James N. Gillett,
Governor of California.

Sir: Under the provisions of the act of April 14, 1909 (statutes 1909, p. 876), the State Board of Prison Directors are authorized and directed:

1. To make a full and comprehensive report to the Governor of and concerning a reformatory institution for prisoners, as theretofore recommended by the State Board of Prison Directors in their biennial report;
2. To prepare estimates of the cost of suitable grounds therefor and the erection of buildings thereon;
3. To report the best method of management thereof as a result of their research and study of other penal institutions;
4. To draft such laws as will carry out the purposes of the above act and secure the best results in criminal reformation.

Pursuant to the above authority, and in obedience to the above direction, the State Board of Prison Directors beg to submit the following report:

I.

CORRESPONDENCE.

Through its president, the State Board of Prison Directors communicated by mail with the wardens, superintendents, and managers of the various prisons and reformatories in the United States, and with state officers having relation with prison and reformatory matters.

A copy of this correspondence is attached hereto, marked Exhibit A, and made a part of this report.

II.

PERSONAL INVESTIGATION.

In addition to the information gained by the correspondence above referred to, the president of the State Board of Prison Directors personally visited the principal reformatories for adult offenders in the United States, and made personal investigation of them and of the methods employed and the results accomplished.

A copy of the report made to the State Board of Prison Directors by its president of and concerning his personal visits and investigations, as last above noted, is hereto attached, marked Exhibit B, and made a part hereof.

As a result of such correspondence and personal visits the Board has received printed copies of laws, rules, regulations, reports, blank forms, etc., all of which have been preserved for reference, but which are too bulky to be made a part of this report.

III.

ESTIMATES OF COST.

As a result of correspondence, personal investigation, and a careful study and consideration of the matter, the State Board of Prison Directors estimates that the cost of the requisite land and the construction and equipment of the necessary buildings thereon would amount to $1,000,000. This estimate is based upon the cost of similar purchase, construction, and equipment in the eastern states (see Exhibit B). It is possible the cost might be somewhat more in California.

It may be added that the above estimate is also based upon a proposed farm of not less than six hundred acres, and a 1,000 single cell equipment, both of which, in the opinion of the Board, are essential to success.

IV.

METHODS OF MANAGEMENT.

It would be impossible, within the confines of this report, to set forth all the methods and details of management that may be advantageously employed in a reformatory for adult offenders, nor can such methods and details be rigidly prescribed. Each prisoner presents a separate and independent problem, and every problem has a human and personal element.

The first and greatest problem confronting an institution of the kind in question is the selection of its head. Experience has demonstrated that as is the head of such an institution so is the institution. After the selection of a competent manager or superintendent then certain fundamental principles may be applied. It must be kept in mind that each prisoner is a man, subject to certain defects which it is the purpose of the institution to correct. The first attention is given to his physical defects, if any exist. A sound body is much better than a weak one upon which to build sound moral and mental structures. Next, the mental deficiencies of the prisoner must receive attention. A trained and intelligent mind more quickly responds to moral teaching and training than does the less efficient mind. With the care of the body and the training of the mind there must go forward the moral reformation of the prisoner, which is the ultimate object sought. To this end the prisoner must be trained to cleanly personal habits; to regularity of hours; to thrift and industry; to clean habits of thought and conversation; to a correct understanding of his relations towards society; and he must leave the institution equipped to earn an honest living, and to take his place among the respectable citizenship of the State.

These are the fundamentals. The details must conform to the problems daily presented. Various trades and occupations, including farming, should furnish wholesome employment for the prisoners. Time should be found for mental and moral training, and proper hygienic conditions should be enforced.

A reformatory is not a pleasure resort, nor is it merely a place for humiliating imprisonment. It is of course a prison, and confinement therein is compulsory and may be prolonged. But the final and ultimate purpose of the imprisonment is not to humiliate or degrade, but rather to elevate and reform. The average criminal has a distorted view of his relations toward organized society. It is to reverse and correct this view that reformatory and corrective institutions are established.

The reformatory that is properly equipped and properly conducted should send out into the world men who have acquired habits of right living and right thinking; who have learned the lesson taught by stern and rigid discipline; who have a proper respect for lawfully constituted authority; whose minds and hands have been trained to useful employment; and who can face the world with the desire, the determination, and the ability to lead honorable and useful lives.

V.

DRAFT OF LAW.

A proposed draft of an act which the Board believes will meet the requirements of a reformatory in this State is hereto attached, marked "Exhibit C," and made a part hereof. Two points, however, are not fully covered in the proposed draft. These are:

1. *The indeterminate sentence.* To properly provide for this form of sentence the entire penal legislation of this State, in so far as it relates to punishment for crime, should be carefully and thoroughly studied and remodeled.

2. *Disposition of the products of the reformatory.* Productive labor has a real therapeutic value in the scheme of criminal reformation, and some proper outlet should be found for the products of this labor. The so-called "state-use" plan is a practicable, feasible, and effective means of disposing of these products and is economically sound.

Both of the matters last referred to are of the utmost importance, and because of their importance should be worked out with the greatest care. Inasmuch as the reformatory, if authorized by the legislature at the session of 1911, would probably not be ready for occupancy prior to the assembling of the legislature in 1913, it might be desirable to allow the intervening time for a more careful study and preparation of appropriate provision for the indeterminate sentence and the disposition of the products of the reformatory.

Respectfully submitted.

TIREY L. FORD,
CHAS. SONNTAG,
C. E. CLINCH,
ROBT. T. DEVLIN,
W. R. PORTER,
State Board of Prison Directors.

EXHIBIT A.

COPIES OF LETTERS RECEIVED BY STATE BOARD OF PRISON DIRECTORS IN RESPONSE TO INQUIRIES AS TO REFORMATORIES FOR ADULT OFFENDERS IN OTHER STATES.

On December 16, 1909, Hon. Robert T. Devlin, the then President of the State Board of Prison Directors, caused to be sent to the heads of a number of penitentiaries and reform schools, a letter reading:

DEAR SIR: The State Board of Prison Directors of California should like to have, if we may trespass upon your time, the benefit of your advice and judgment as to the best way to carry out the purpose of this act, together with information that you think would be proper to submit to the legislature on this subject, and particularly would desire information on the following points:

1. Copies of the laws creating and governing your institution.
2. Rules and regulations for the management of the reformatory.
3. Cost of buildings and general outline of their extent.
4. Salaries paid to officers and employees.
5. Total cost of support, including salaries of institution and cost per capita.
6. Number of inmates.
7. What percentage of those discharged "make good," and what per cent do not?

In addition to these we would appreciate if you would give us a general outline of what your experience may suggest as the best thing for us to do in California. Commencing now we ought to place the institution on the best modern basis, and such is our desire.

We shall be glad to meet any expenses that you may incur in giving us the above information.

Very truly yours,

ROBT. T. DEVLIN, President.

Subsequently, on June 10, 1910, Hon. Tirey L. Ford, who had become President of the Board, addressed a further communication to those from whom no response had been received to Mr. Devlin's letter, as well as to some additional institutions, reading as follows:

DEAR SIR: The legislature of California has instructed the State Board of Prison Directors (of which the writer is president) to report to it at its next session relative to the establishment of an industrial reformatory for adult offenders. In this connection the board is anxious to have, for comparative purposes, a general statement concerning similar penal institutions of other states, and it is in this behalf that I venture to seek your good offices.

In explanation of the ensuing inquiries, permit me to say that here in California we have two penitentiaries and also two reform schools. To the reform schools are committed offenders under sixteen years of age; to the penitentiaries are committed all others convicted of felony. In some states there is, in addiiton to the penitentiary and reform school, an intermediate institution known as a reformatory, to which are committed adults upon their first offense or adults who do not appear to be confirmed criminals, with the idea of endeavoring to redeem them by various methods from the ways of crime. The class of institution last named is the one that our legislature has under consideration.

We would like very much to have the benefit of your advice and judgment, together with information that you think would be proper to submit to the legislature upon the subject, and particularly would desire information on the following points:

1. Copies of the laws creating and governing your institution.
2. Rules and regulations for the management of the reformatory.
3. Cost of buildings and general outline of their extent.
4. Salaries paid to officers and employees.
5. Total cost of support, including salaries of institution and cost per capita.

6. Number of inmates.

7. What percentage of those discharged "make good," and what percentage do not? We are quite anxious for at least an estimate of this percentage, based upon your experience.

8. What class of offenders are committed to your institution, as to age, offense, etc.?

9. Have you a state reform school, in addition to your institution, to which juvenile offenders alone are committed; if so, what is the name and address of its principal officer?

10. Are local reformatories or reform schools or houses of correction maintained by the municipal or lesser subdivisions of your state (by the counties, towns, or parishes, for instance), to which are committed juveniles, or adult first offenders, or others who would be committed to the penitentiary did not such local institutions exist? If so, what is the name and address of some central agency or general officer (if any) whence information may be sought as to such local institutions as a whole?

11. Have you a state board or commission within whose jurisdiction or cognizance falls your penal (and perhaps other) institutions generally, or the compilation of the penological statistics of your state; if so, what is the name and address of its principal officer?

12. Are there in your state laws permitting the judges of your criminal courts to release upon probation persons convicted of crime; and if so, do these laws apply to adults, or to juveniles alone, or to both? If you have such laws, what is your opinion as to their practical operation and effectiveness?

13. Are there in your state laws authorizing the parole (aside from executive pardon) of inmates of your penal institutions; and if so, what is your opinion as to their practical operation, and what percentage of those paroled thereunder "make good"?

14. Have you laws authorizing the taking of photographs, Bertillon measurements, or other means of identification of criminals, and the distribution of such data to police and peace officers?

I fully realize that this array of questions may seem unduly formidable, but they are meant merely to elicit a concise outline of the reformatory methods and experience of your state, and your courtesy in indulging us to this extent will, I assure you, be sincerely appreciated.

Very truly yours,

TIREY L. FORD, President.

Copies of the replies received are annexed hereto.

MASSACHUSETTS STATE PRISON.

B. F. BRIDGES, Warden.
N. D. ALLEN, Deputy Warden.
E. A. DARLING, Clerk.
REV. H. W. STEBBINS, Chaplain.
J. I. McLAUGHLIN, Physician

CHARLESTOWN, December 27, 1909.

Mr. R. T. DEVLIN, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

MY DEAR SIR: Your communication asking for information about "a reformatory institution for prisoners" has been this day forwarded by me to Mr. F. G. Pettigrove, chairman of the Prison Commission, State House, Boston, Mass. He, no doubt, will give you all the information you desire.

Very respectfully yours,

B. F. BRIDGES, Warden.

COMMONWEALTH OF MASSACHUSETTS.

OFFICE OF
PRISON COMMISSIONERS,
State House.

BOSTON, January 4, 1910.

Hon. ROBERT T. DEVLIN, *President of the State Board of Prison Directors, San Francisco, Cal.*

DEAR MR. DEVLIN: General Bridges, warden of the state prison here, has handed me the letter you addressed to him on the subject of a reformatory, and I have great pleasure in sending you such answers to your questions as I am able to give. The present laws governing the Massachusetts Reformatory are contained in the prison officers' handbook, of which I send you a copy.

1. The laws for the creation of the reformatory I am unable to furnish in a separate document, as they have long been out of print. It was established by chapter 255 of the acts of 1884, and I suppose your State Library at Sacramento has all our laws in accessible form. If, however, Mr. Gillis, the librarian, should be unable to send you a copy, I will have a typewritten copy made here.

2. The rules and regulations for the management of the reformatory are contained in a small manual; sent by mail.

3. The Massachusetts Reformatory now occupies buildings that were constructed as a state prison. These buildings were erected in 1875–78, at a cost of about $1,000,000. They could not be constructed to-day for that amount. A few years ago, under the direction of the legislature, I made an examination of the cost of building a new state prison, and the report submitted at that time, of which I send a copy, may furnish some information. Concerning the general outline and extent of the buildings, I beg to refer you to an account of prisons which I prepared in 1903 for the Louisiana Purchase Exposition.

4. The salaries paid to officers are shown in the annual report, of which a copy is sent to you. In addition to the officers whose names appear in this report there are employed a number of instructors both for evening and day schools, and their compensation varies from $720 to $1,000 a year. Besides these there are a few teachers of evening school who receive two dollars for each evening employed.

5. The cost of support is shown in the annual report, and the average per capita cost last year for all purposes was $210.77.

6. The average number of inmates in 1908 was 929. The average number in 1909 was 968.

7. This question can not be answered definitely in respect to the reformatories any more than in relation to the state prison. We know that in 1908, for example (the figures for 1909 have not been tabulated), of the 791 prisoners committed from the courts 100 were recommitments, and this is about the average number. Some others who failed to keep the conditions of their release got into other prisons. You will find a general statement concerning this subject on page 11 of the report.

Your letter asks for a general opinion on the subject of a reformatory, but as the communication was not addressed to me I do not feel at liberty to give my views. If, however, you think that I can be of any service will you please let me know?

By the way, Mr. Devlin, I was in San Francisco a few days last summer, and revisited the San Quentin prison. It was very interesting to see how you disposed of the hill for the purpose of making a site for the new prison buildings. I was with a party of friends, and stayed only a few days in San Francisco.

With pleasant remembrances of your courtesy to me in 1905, I am, with kind regards,

Yours faithfully,

FRED G. PETTIGROVE, Chairman.

MINNESOTA STATE REFORMATORY.

St. Cloud.

FRANK L. RANDALL, General Superintendent.

December 27, 1909.

Hon. ROBERT T. DEVLIN, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

DEAR SIR: Responding to your request of the 16th instant I enclose some printed matter pertaining to this institution, which has been in existence for twenty years, during half of which time I have had charge of it.

In 1905 I visited your state at the request of some of the state officials. I was afforded an opportunity to visit both of your state prisons and many of the other state institutions.

I addressed the Commonwealth Club, and the State Board of Charities, and other assemblages. On my way to California I read a paper on the subject of "The State Reformatory" at the National Prison Congress at Portland, and I send you some copies of it. It expresses my present sentiments fairly well in many respects.

I seriously suggest, however, that you take a foremost position by providing by law that all persons committed to your reformatory should be examined shortly after their receipt by an alienist or a board of alienists, and that none of the inmates should be retained in the institution who are found to be of abnormal mentality, which is likely to render them incapable of responding to the purpose and treatment of the institution.

I regret to say that a heavy percentage of adult convicts appear to be more or less incompetent, and that their presence in the reformatory is detrimental to the welfare of the others to a marked degree.

Out of our population of 360 I recently caused twenty-five to be carefully examined by a specialist, and all but three of them were found to be improper subjects for detention in this institution because satisfactory results may not be expected in their cases. I expect soon to submit for examination at least fifty more men, of whom I fully believe very few will be found normal in mentality. Without special legal permission, it will be found difficult to dispose of these undesirables.

I have made special efforts to find reliable statistics concerning your question No. 7, and have been unable to do so. The reformatories base their figures of reformation usually on the number of paroled or discharged inmates who are not known to have violated the terms of their parole or the laws of the state. I find no institution which follows any systematic method of ascertaining and collating information regarding former inmates after the jurisdiction of the state has been released. I attempted it, but the plan did not seem to meet with approval, and it was necessarily abandoned under the rules and practice adopted by the managing board.

The want of such information accounts for the difficulty we of America have had in satisfying the students from other countries (notably Germany) that our reformatory system for adults is worthy of their adoption.

We feel certain that it works out well, but can not satisfactorily demonstrate it in figures, though a study of each individual case would demonstrate it, where the more comprehensive records are kept.

The management of your reformatory should have plenary powers, in my opinion, and should not be held in restraint by inconvenient and inelastic statutory regulations.

The general plan should be to keep no inmate in detention unless it is well for him or for society that he should be detained, and to permit no inmate to go to his liberty unless there is substantial reason to believe that his interests and the interests of society will thereby be served. The maximum and minimum terms should be wiped out.

If you would succeed in the greatest possible measure the appointment of the superintendent should be made regardless of political or other irrelevant consideration, and he must have reasonable expectation of a continuing tenure of office conditioned upon the faithful performance of his duties, with full power of appointment of the entire staff and of removal, and it should be made an unlawful act for any official to directly or indirectly influence or attempt to influence his action.

To take a most desirable step in advance of other states, I would strongly recommend that neither the superintendent nor any other official immediately connected with the institution be required to live permanently at the institution, or be furnished a cottage or allowed perquisites or even board (except as the conditions of the location might necessarily require it), but that all compensation be made in cash only.

To this I would make a special exception in the case of employees in charge of live stock and agricultural and horticultural operations, if their continuous presence at the institution is required and can not otherwise be secured.

The superintendent should always have an assistant in training to take his place in his absence, or when he may retire from the service.

If the school is to be taught by the guards and keepers they should be men of some attainments, and in any event they should be persons of good disposition who always speak and act in an edifying way.

Such men can not generally be engaged for the salaries usually allowed in state reformatories, and therefore I should advise that salaries should not be stinted, but that sufficient allowances should be made to enable the superintendent to employ men of the right kind.

Both men and women should not be held at the same instiution. The law should require the committing judges to furnish the superintendent all the material information they may have regarding each person committed by them, and to familiarize themselves with the workings of the institution by visiting it early in their judicial careers, and at stated times thereafter, at public expense.

The after care of delinquents is as important as their treatment while in detention, and ample state agency should be provided. At least one of the state agents should spend most of his time among the inmates, and know their faces and be acquainted with their personal traits, and their aptitute and capacity. He should establish the most friendly relations with them, and be a man of tact and executive force.

Jail detention being a damaging thing, provision should be made for the commitment of each suitable prisoner to the institution as soon after his apprehension as possible.

In this state it required a constitutional amendment to secure the commitment of an accused person before the meeting of the grand jury and the return of an indictment, but I succeeded in securing it against many obstacles, and feel that I thereby rendered the state more service than in any other regard.

There are many other things that might and perhaps should be mentioned, but if your Board of Directors visit us I shall have another opportunity to communicate with them, and a better one, inasmuch as they could then see for themselves the scope of our plans and propound their questions accordingly.

Yours respectfully,

FRANK L. RANDALL, Superintendent.

I enclose a copy of the laws creating this reformatory, and rules and regulations for its management. Our supply of these copies having become reduced, you are requested to return this one which is designed for use in the steward's department.

I send an excerpt from our inventory showing the value of the plant by item. Also a print showing the general outline of the main buildings. It is rather dim, but the best at hand.

The annual appropriation for maintenance is ninety thousand (90,000) dollars.

The number of inmates is 360, and the number of men on parole is usually about 150.

I am mailing under separate cover a copy of the report of the state board of control for the years 1903-4. On pages 139 and 140 you will find the wage schedule of that period. Salaries of guards and keepers have been advanced since then about ten (10) per cent.

There is no charge in connection with these matters, and I should be pleased to serve you further.

Photographs showing different parts of the institution can be had from J. J. Fritz, photographer, of St. Cloud, Minn., for 50 cents each, I believe.

FRANK L. RANDALL.

MICHIGAN REFORMATORY.

OTIS FULLER, Warden.

Board of Control.	*Official Staff.*
GOVERNOR FRED M. WARNER, ex officio.	J. R. WALKER, Deputy Warden.
JOSEPH WEINHOLD, *President*, Jackson.	F. E. WARD, Clerk.
A. S. MUSSELMAN, Grand Rapids.	REV. CYRUS MENDENHALL, Chaplain.
A. R. LOCKE, Ionia.	H. A. HAYNES, M.D., Physician.
	L. P. ESSICK, Chief Engineer.

IONIA, MICH., December 27, 1909.

Hon. ROBERT T. DEVLIN, *Room 13, Ferry Building, San Francisco, Cal.*

DEAR SIR: I have your favor of December 16th and note that California desires to erect a reformatory upon the "best approved modern plan." I fear I can not be of any assistance to your Board in this matter for the reason that the Michigan Reformatory is not in that class according to the average ideas of modern penologists and modern politicians.

The idea of modern prison reformers seems to be that when a young man blows a safe, steals a horse, or forges a check he at once enters a preferred class, and is entitled to an education and all the comforts of life without any individual efforts on his behalf, such as the ordinary son of a laboring man who has never committed a crime has to put forth.

That is the New York idea, and it is born on the part of a desire on the part of politicians to cultivate the labor union vote, which is adverse to any productive industry in the prison. The New York Reformatory entertains its forgers, porch climbers, and safe blowers with military drills in a huge costly building, with lectures, study, trade school instruction in which the product of the prison labor is destroyed, and the various prison duties of the institution are divided up among five men where one man could do the work without working more than half the day.

The idea of the Michigan Reformatory is to give to all religious instruction, and to give every man who comes in here uneducated the advantages of having a common school education, and to make each one come just as near earning his own living as it is possible to do. This institution is too nearly self-sustaning to be recognized as an "improved reformatory." Personally I have no use whatever for the "improved" breed of penology, which allows the prisoner to eat his bread in the sweat of the face of honest labor simply because labor unions and politicians insist that the prisoner shall not do any productive work. I realize that I am in a hopeless minority in this class.

I take pleasure in sending you under separate cover such reports as I have which may aid you. This report shows the capacity of the institution, the cost of buildings and grounds, the salaries paid all of our officers, some facts about our night school, and religious training, and the general financial results of our operation.

This reformatory was intended for first offenders, and there is no maximum age limit, all first offenders above fifteen years of age being received. Of course we receive a great many old offenders, but under our law may transfer them to other prisons.

Our main idea here is that productive labor and plenty of it is the best of reforming influences, while the central idea of most of the other reformatories seems to be that rest and culture at the expense of the taxpayers are most to be desired. Under that plan the New York State Reformatory, with less than 1,500 prisoners, costs the State of New York more than half as much as is annually appropriated for the Michigan University with its 5,000 students. This institution is governed under the general law passed in 1893, which also applies to the two state prisons of the state, being act No. 118 of the public acts of 1893. I have no printed copies of this act, but think you can get a copy by addressing the secretary of state, Lansing, Michigan.

Very truly yours,

OTIS FULLER, Warden.

P. S.—I have taxable property in California worth over $50,000, and hope at no distant day to transfer the balance of my business interests there, and to personally absorb some of its glorious sunshine. I think, therefore, that I have a right to enter a personal protest against adopting in California the tax-grabbing and treasury-looting reformatory policies of New York, Pennsylvania, and Massachusetts. Prisons should be business institutions, and should have a decent regard for the rights of the taxpayers.

OTIS FULLER.

MICHIGAN REFORMATORY.

OTIS FULLER, Warden.

Board of Control.	*Official Staff.*
GOVERNOR FRED M. WARNER, ex officio.	J. R. WALKER, Deputy Warden.
JOS. WEINHOLD, *President*, Jackson.	F. E. WARD, Clerk.
A. S. MUSSELMAN, Grand Rapids.	REV. CYRUS MENDENHALL, Chaplain.
A. R. LOCKE, Ionia.	H. A. HAYNES, M.D., Physician.
	L. P. ESSICK, Chief Engineer.

Ionia, Michigan.

J. D. Beck, commissioner of labor, Madison, Wis., has just issued a very interesting report on the binder twine industry in the prisons of the United States, and gives a brief synopsis of other employments in many prisons. If you have not seen it, Mr. Beck will send you a copy upon request. It is well worth reading.

OTIS FULLER.

ILLINOIS STATE PENITENTIARY.

Joliet.

E. J. MURPHY, Warden.

December 28, 1909.

Hon. ROBERT T. DEVLIN, *Room 13, Ferry Building, San Francisco, Cal.*

DEAR SIR: I am in receipt of your communication of the 16th instant, but inasmuch as the inquiries contained therein refer to a reformatory I have forwarded your letter to the superintendent of the state reformatory at Pontiac, Illinois, with the request that he give you the information desired.

Yours respectfully,

E. J. MURPHY, Warden.

ILLINOIS STATE REFORMATORY.

Pontiac.

M. M. MALLARY, General Superintendent.

January 3, 1910.

Hon. R. T. DEVLIN, *Room 13, Ferry Building, San Francisco, Cal.*

MY DEAR SIR: I have received your letter in reference to certain data which you wish in reference to this institution, and in reply will say that I am at work compiling such information as you wish, and will send same to you when completed.

Yours very truly,

H. G. MAYNOR, Secretary.

ILLINOIS STATE REFORMATORY.

Pontiac.

R. A. Russell, General Superintendent.

Pontiac, Ills., January 5, 1910.

Hon. R. T. Devlin, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

My Dear Sir: I have your letter of December 16th, and also a similar letter which was forwarded to me from the warden of the Illinois state penitentiary of Joliet, Illinois, and in view of their similarity an answer to one will be an answer to both. In reply will say that I shall be pleased to coöperate with you in the establishment of your reformatory in California in any way possible by giving you what information is available in reference to this institution. We are proud of our institution here, it being the second largest of its kind in the United States, and is now about forty years old. In reply to your several inquiries will say:

1. That copies of laws creating and governing this institution may be found on page 1,736, chapter 118, of Hurd's revised statutes of Illinois, and we have no printed copies for distribution.

2. Rules and regulations for the governing and management of this institution are herewith enclosed, under separate cover.

3. Cost of buildings and grounds, including 176 acres of the finest land in the state, is $961,278.78.

4. Salaries paid officers and employees range from $50 to $75 per month, according to the class of work.

5. Cost of support, including salaries and cost per capita, may be found by referring to the chief clerk's report in our biennial report, which I am sending you under separate cover.

6. Number of inmates is 742.

7. About 83 per cent of those paroled make good, and about 17 per cent relapse into crime, according to the best information obtainable.

You will find from the biennial report which I am sending you under separate cover a great deal of information which may be of assistance to you along your line of investigation of this matter, and which I would respectfully refer you to.

Our institution is now along in her fortieth year, and during my six years of experience here in most every department I have learned that as a superintendent is so is the reformatory, hence the responsibility in selecting a proper superintendent means a great deal to you.

The State of California should not take a back seat among other states along this line, and when the time comes for you to start this institution to work it should be left largely to the man who is to preside as superintendent.

If anything additional is required, I will be pleased to have you call upon me. I have had a desire to come west for some time, and if I could be of any assistance to your board will be pleased to have you command me at any time.

Yours very truly,

H. G. Maynor, Secretary.

CONNECTICUT STATE PRISON.

Albert Garvin, Warden.

Wethersfield, Conn., December 29, 1909.

Hon. Robert T. Devlin, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

Dear Sir: In reply to yours of the 16th, and referring to questions one to seven, I am unable to comply so far as this state is concerned, except with the first. I enclose a copy of bill that was passed (it is somewhat mutilated; however, it is the only one I have), and will send under separate cover report of the commission to the legislature; also, the indeterminate sentence law and rules of regulation governing this institution.

We have not purchased the site as yet for our reformatory in this state, but hope to locate one within the next month and begin building as soon as the weather will admit of in the spring. The probable cost of Connecticut's reformatory when finished will be about $1,000,000.

Very respectfully,

Albert Garvin.

WISCONSIN STATE PRISON.

Waupun.

Henry Town, Warden. Jacob Fuss, Chief Clerk.
J. N. Baumel, Deputy Warden. G. A. Benson, Record Clerk.

Waupun. December 30, 1909.

Mr. Robert T. Devlin, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

Dear Sir: I am in receipt of your valued favor of December 16. A reformatory was established in this state in the year 1898, and buildings are being added each year. For the complete particulars for the future plans of that institution I would refer you to the superintendent, Mr. C. W. Bowron, Green Bay, Wis.

I have to-day requested the secretary of the state board of control of the charitable and penal institutions of this state to forward to you a copy of the laws governing the penal institutions of this state.

The Wisconsin state prison was established in the year 1851. The grounds about the buildings comprise twenty-four acres, and in connection with the institution there is a farm of about 300 acres. The buildings consist of an administration building 85 by 90 feet, three stories in height. This building is occupied by the offices, dining and lodging rooms for the officers, and the prison chapel. Three cell wings, one 50 by 200 feet, containing 280 cells; one 50 by 200 feet, containing 288 cells; one 178 by 60 feet, containing 200 cells; the buildings for the kitchen, bakery, and cold storage rooms, and a general dining-room; hospital; bath rooms; carpenter shop; laundry; storerooms; tailor shop; engine and boiler rooms; machine shop; the warden's and deputy warden's residence; the matron's residence; and the female prison containing 36 cells. The workshops consist of a two-story building 54 by 500 feet, and there has recently been constructed for the use of the manufacturing of binder twine a two-story reinforced concrete building 240 by 90 feet. These buildings were nearly all constructed years ago, and we have no details showing the cost of construction.

Our new cell room, which has been pronounced a model of its kind by several prison authorities, was erected at a cost of $77,553.41. This building is 178 by 60 feet. The first floor of the outside walls is built of reinforced concrete, and the balance of pressed brick. The cell block consists of 200 cells, 50 on each tier, and four tiers high. Each cell is 10 feet long, 5 feet wide, and 7½ feet high. The cells are built of reinforced concrete, with steel grated fronts, and have cement floors. Each cell contains a white enameled lavatory and closet, and is furnished with a chair, table, and a bed.

The new workshop recently constructed for the establishing of a binder twine industry, but which can be used for other purposes, is 240 by 90 feet, and is constructed entirely of reinforced concrete. The construction of this building is of the skeleton type, to provide the greatest possible light. The cost of this building was about $60,000.

In answer to your question No. 4 will state that during the past year we had an average of 49 officers, and the amount paid in salaries was $42,625.17.

In answer to your question No. 5 will state that our current expenses, not including convicts' earnings, are about $120,000 a year. The gross cost per capita per week is $3.76, and the net cost $1.23. The average number of inmates for the year on which this was computed was 626. Our population at the present time is 719; 702 males and 17 females.

In answer to your question No. 7 will state that we do not keep in touch with our discharged prisoners. It is my opinion that about 20 to 25 per cent return to crime.

Provision for the parole of prisoners from this institution was made about two years ago. Our laws governing paroles provide that no application can be considered until the convict has served one half of the full term for which he was sentenced, and in the case of life men after they have served "the good time" of the thirty years, which is sixteen years and three months. Our experience under this law has been highly satisfactory; 204 applications have been considered, 104 of which were granted; of these but seven defaulted, three were returned to prison for the violation of the parole agreement, and four escaped.

In the matter of the construction of a reformatory for your state, I would briefly suggest the following: Select a site large enough to allow for the growth of the future. Have all the buildings constructed on the improved ideas of prison construction; adopt the best sanitary devices possible; have the cells large, one inmate to a cell, and provide lavatories and closet in every cell. Set aside a fixed number of hours each day for the inmates to attend school; provide various forms of employment, so that the young men can learn a trade there. Have all appointments made to the service of the institution removed from politics; have a parole system.

If I can be of any further service to you in any way, kindly call upon me.

Very truly yours,

HENRY TOWN, Warden.

STATE BOARD OF CONTROL
OF
WISCONSIN REFORMATORY, CHARITABLE AND PENAL INSTITUTIONS.

ALLAN D. CONOVER, *President*, Madison.
ELMER GRIMMER, *Vice-President*, Marinette.
DR. ALMAH J. FRISBY, Milwaukee.
W. H. GRAEBNER, Milwaukee.
R. S. COWIE, Whitehall.
M. J. TAPPINS, *Secretary*, Madison.
A. C. LERUM, *Chief Clerk*, Madison.

MADISON, January 3, 1910.

Hon. R. T. DEVLIN, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

DEAR SIR: I have a letter from Mr. Town, the warden of the State prison, in which he says that you desire a copy of the laws governing the state institutions. I am sending you by mail, under separate cover, the compilation of the laws made in 1902. No compilation has been made since that time. The pamphlet which I send you includes all the important laws of the state governing the state institutions, except the parole and probation law.

The legislature of 1907 enacted a law making the state board of control a parole board, and giving to that board the power to parole inmates of the state prison who have served one half of the sentence imposed by the court.

The legislature of 1909 amended the law so as to give the board power to also parole life convicts who have served a period of thirty years, less "the good time" allowance which would make the net time for a life convict to serve sixteen years and three months. This last provision will probably be exercised very little. Up to the present time but three life convicts have been paroled, although there has been more than forty applications.

I am sending you a copy of the probation law enacted by the last legislature. It is similar to the probation law in operation in the state of Ohio, and from the best information that we can obtain it is working very satisfactorily in the state of Ohio. We have not operated under it long enough to have any opinion as to its results here, but thus far the results seem to justify the enactment of the law.

If there is anything further that you desire concerning the operation of the parole law or the probation law, I will be glad to furnish it to you.

Very respectfully,

M. J. TAPPINS, Secretary.

WISCONSIN STATE REFORMATORY.
C. W. BOWRON, Superintendent.

GREEN BAY, WIS., August 20, 1910.

Hon. TIREY L. FORD, *President State Board of Prison Directors, 623 Balboa Building, San Francisco, Cal.*

DEAR SIR: Your letter of June 10th, asking for certain information remained unanswered till now for reasons too numerous to mention, one of which was that our fiscal year ends June 30th, and we have been compiling our statistics, which I thought would give me an opportunity of answering one of your questions more definitely. Taking up your questions, I will endeavor to answer them as concisely as I can.

(1) I can not find a copy of the law creating this institution, outside the printed statutes. But the law is so simple that I can give you a synopsis of it in a few words. The law establishes the Wisconsin state reformatory for the incarceration of those convicted for the first time of a felony and who are not under sixteen years or over thirty years of age, and places the institution under the authority and direction of the state board of control, which has the supervision over all state penal and charitable institutions. The board is authorized to employ the inmates as it sees fit, establish industries and schools, appoint a superintendent, and fix all salaries. The board is authorized to parole inmates whenever it deems it proper to do so, and to make all rules for governing the institution and paroled inmates. This law is merely fundamental and lays down no rules or regulations, but leaves

all that to the board—a wise method, for the reason that rules and regulations may thus be changed as experience prompts without legislative enactment. This is very important. This law also provides for the transfer of inmates from the state industrial school for bogs, ages 8 to 16, to the reformatory after they are sixteen years of age if they still remain incorrigible, and also the transfer of undesirable inmates from the reformatory to the state prison at Waupun, and also for the transfer of inmates from the state prison to the reformatory. Thus the board has the opportunity of making a closer segregation and classification of criminals.

(2) I send you under separate cover our rules for officers and inmates; also, some of our biennial reports.

(3) Our completed buildings cost $292,591. We have a cell house with 296 cells, a factory building 300 by 60 of two stories brick; a two-story brick and concrete warehouse, a power house (boiler and engine room and machine shop), a hospital building costing $24,000, two large barns, tool houses, etc., four residences. We are now building the main central administration building—estimated cost by contract $300,000; but are building it with our own labor, the material for which will cost about $150,000. Several of our buildings were constructed by our own labor.

(4) Salary of superintendent $2,500 a year and living; overseer of construction $125 a month; instructors in building trades $70 to $100 a month; school teachers $60 a month; ordinary guards $55 a month. Salaries increase slightly with each successive year of service. We serve dinners to all officers free.

(5) Total cost from $36,000 to $42,000 per annum. Per capita cost about $140 per annum.

(6) Average for 1909, 294;
Average for 1910, 237.

(7) I think from 60 to 75 per cent.

(8) First offenders, between 16 and 30 years of age, found guilty of a felony other than murder, and those convicted of a crime the punishment of which would be a year or more in the county jail.

(9) We have a juvenile state industrial school at Waukesha; A. J. Hutton, superintendent.

(10) Nearly all cities of any size have a tramp workhouse for stone breaking. Milwaukee County is the only county maintaining a workhouse, called the Milwaukee county house of correction, a large institution, for offenders of all classes and ages; Mr. Momsen, superintendent. No lesser subdivisions of the state have any reformatory, etc., for juveniles and first offenders.

(11) All state penal and charitable institutions are under the direction of a state board of control, with central office at Madison. I send you letter head, which will give you further information. This board makes contracts for supplies for all the state institutions, being thus enabled to purchase at wholesale prices. This board also inspects all jails and lockups and county poorhouses, and may compel the counties to build new ones.

(12) Our judges may release on probation juveniles and adult first offenders, but not those subject to state prison. I send you copy of the latest law governing adult first offenders. My opinion is that unless most carefully used this law applying to adults is likely to be much abused, for the reason that the judges generally know the least about the personal characteristics and temperament of the prisoners before them, and are influenced by immediate circumstances or the importunities of friends of the accused.

(13) Inmates of the boys' industrial school at Waukesha and of the reformatory may be paroled by the board of control whenever the board sees fit. Prisoners at the state prison may be paroled by the board after they have served half their time. This has worked well in a majority of cases, but the parole system must be applied with great conservatism. I believe more prisoners are paroled than should be. About 70 per cent of paroles make good, but they do not all stay good after paroles have expired.

(14) There is no law regarding identification. All penal institutions for adults take photos and Bertillon measurements, and some of them finger prints, but it is done voluntarily.

Apologizing for my unseeming delay in answering your communication, and realizing that only a modicum of information can be conveyed in a letter of this sort, I am,

Yours truly,

C. W. BOWRON, Superintendent.

P. S.—I am inclosing a few extracts from my biennial report, just completed.

OHIO STATE REFORMATORY,
Mansfield, Ohio.
J. A. Leonard, Superintendent.
Board of Managers:
O. E. Hare, *President*, Sardinia.
J. W. Dover, McConnelsville.
M. F. Coates, Alliance.
W. S. Rogers, Wapahoneta.
Judson Vincent, Mt. Vernon.
M. L. Ferneding, Dayton.
F. S. Marquis, *Secretary*, Mansfield.

December 30, 1909.

Mr. Robt. T. Devlin, *President State Board Prison Directors, Ferry Building San Francisco, Cal.*

My Dear Sir: I send you under separate cover a copy of the laws governing this institution, and some other documents containing much information as to the methods employed at this institution.

I am delighted to know that California is awake to the necessity of having a first-class reformatory. You in the Golden State should be able to more nearly approximate the ideal institution than the older states, where so much of precedent restrains the progressive hand.

While we in Ohio are pushing to make our institution fully deserving of its reputation, we shall not be envious or jealous when we hear we must go to California for the best equipped, best managed reformatory in the sisterhood of states.

When you have looked over the documents I send you and you have some particular points that you would like to discuss, please write me, and I will take them up fully and be of all service possible.

Very truly yours,

J. A. Leonard, Superintendent.

STATE OF NEW YORK—SING SING PRISON.
Jesse D. Frost, Agent and Warden.

Ossining, December 30, 1909.

Hon. Robt. T. Devlin, *Room 13, Ferry Building, San Francisco, Cal.*

My Dear Sir: I beg to acknowledge receipt of your communication of December 16th in reference to the establishment of a reformatory in California, and in reply thereto say that I have never had any experience at all in the management of an institution of this kind. Sing Sing, as you know, is a state prison. We have two reformatories directly under state management; that is one at Elmira and another at Napanoch, and I might add the house of refuge at Randall's Island, New York City, which is practically the same. These institutions are all under the direct management of the state prison commission, of which Dr. Charles F. Howard, of Buffalo, is the chairman. I have forwarded your letters to him for such reply as he may see fit to make.

Regretting that I am not in a position to give you either information or advice, I remain,

Yours very truly,

Jesse D. Frost, Agent and Warden.

STATE OF NEW YORK.
OFFICE OF
The President of the State Commission of Prisons.
Charles F. Howard, M.D., President.
1458 Main Street,
Buffalo, N. Y., January 1, 1910.

Robert T. Devlin, *Esq., President State Board of Prison Directors, San Francisco, Cal.*

My Dear Sir: Your letter of December 16th to the Warden of Sing Sing was forwarded to me to-day. I hasten to reply, as I infer that you need what information I am able to give you at once.

In 1900 Governor Roosevelt appointed me a manager at the state reformatory at Elmira. For several years previous to that time there had been considerable criticism of the manner in which it was managed. Mr. Brockway had been superintendent of the institution from its foundation, and his methods of discipline were not in keeping with the law governing the punishment of prisoners.

In August of 1900 Mr. Brockway resigned. For three years Dr. Robertson, the senior physician, was at the head of the institution, and then we succeeded in securing the services of Colonel Joseph F. Scott, superintendent of the Massachusetts state reformatory at Concord, Massachusetts. Colonel Scott has since been in control.

I was a member of the board of managers for seven years, and its president for five. In 1907 a new prison commission was created by legislation, and Governor Hughes, without consulting me, appointed me for the long term, four years, and I have since been president of that commission.

Believing that I had so much time that I did not know what to do with it, he shortly afterwards appointed me a member of the commission to build the new Sing Sing prison, and I have been president of that board since. We are trying to get started on that work, but have been handicapped by disgruntled architects who failed to have their plans adopted as the best. We are now about ready to build the prison. I wish I was in California to talk with you, because that would be far more satisfactory.

I expect to go to Elmira in a few days, and will send you some literature from there. I send you in this mail a handbook prepared by our stenographer, Mr. Allen, which will give you lots of information. On page 139 you will find a complete description of all the buildings composing the plant. You would not need so large an institution at present. The population at Elmira is 1,500 all the time, and Napanoch, its sister institution, has 500.

Every male committing a felony for the first time is eligible for entrance here. The sentence is indeterminate, with a maximum equal to the time he might have been committed to state prison. If he behaves he can be released on parole in a year. The usual time a man is kept on parole is six months, but he may be required to report longer if the board desires it.

You will notice the different trades we teach, and you would be governed in the variety by the conditions which exist in your state. Here we make bricklayers, carpenters, machinists, and we always are careful to select a trade for an inmate which will be most useful for him in the section of the state where he lives. We teach thirty-six different trades.

We are also governed by the nationality of an inmate. We put Hebrews in the tailoring and clothes-cutting classes; Irishmen at blacksmithing and bricklaying. We could make a fair workman out of a smart fellow in about six weeks.

During my administration we made improvements amounting to $300,000, and almost all of the work was done by inmates. We built the new domestic building, cuts of which you will see in the book I send you, for about *nine cents* a cubic foot. It will compare with any modern office building, and almost all the work was done by inmates. It would be necessary for you to let contracts for your principal buildings, and use your inmates later to construct the minor ones.

The cell block at Elmira is old now, and not in keeping with modern construction. I have been studying prison construction during the ten years of my work along these lines, and visited all the new ones. The plans for the new Sing Sing will give us a prison without an equal in the world. The cost will be about $2,500,000. The cost of the Elmira reformatory was $2,000,000.

I enclose a bird's-eye view of the new prison torn from the last report of the state prison commission. The cell block is 1,200 feet long, and has 1,408 cells. I wish that my duties took me out your way, but I do not expect to go further than Leavenworth, Kan., this winter. I have the data of cost and all details of construction. In reply to your questions, I would say:

1. The reformatory was created for first offenses in felony between the ages of 16 and 30. The laws have so many times been added to that it would be difficult to give you a complete copy.

2. The institution is under the control of a board of seven, appointed by the governor.

3. The entire cost of buildings to date is about $2,000,000. (See page 139 in handbook for description of various buildings.)

4. Colonel Scott is now superintendent of reformatories (Elmira and Napanoch) and receives $5,000 a year and maintenance. Patrick J. McDonnell is superintendent at Elmira at $3,000 and maintenance. George Deyo is superintendent at Napanoch, and receives the same as Mr. McDonnell. The various officers receive from $660 to $1,800 a year.

5. The cost of support annually is $240,000, and the per capita cost is about 40 cents a day.

6. The population is about 1,500.

7. The average per cent of reformations is 80, which holds good as far as we are able to learn. About 20 per cent slump. We get them in the state prisons after a later conviction.

In conclusion, I would recommend that your state follow our plan as a whole, for it has proven the best, all things considered. I could write and talk for days on this subject and not tell you all I would like to.

During the past two years I have been engaged in selecting sites for prisons and state farms. The selection of a proper site is most important. I have seen over three hundred in this state.

Your buildings should be built on modern lines by an architect who has had large experience in prison construction. In selecting plans for the new prison we had thirty-four competitors to choose from. I have reduced photographs of every part of the plant. These were taken from the drawings of the successful plan. The plans we have would do for a reformatory, as we have shops and schools in our prisons.

If I knew what your appropriation was and how much you had used, I could possibly ascertain what the cost would be to gather all necessary data, and if desired to send some one out to go over all questions of site, buildings, and the general scheme.

As you state, it is very desirable to have the project started right. If your state intends to spend a large sum of money there should be a proper return for it.

I am glad of this opportunity to be of so little service to you, and will be pleased to render any assistance in starting you right.

With kind regards, and the compliments of the season, I am,

Most sincerely yours.

CHAS. F. HOWARD.

STATE OF NEW YORK.

NEW YORK STATE REFORMATORY—Office of the Superintendent.

JOSEPH F. SCOTT, Superintendent of Reformatories.

ELMIRA, N. Y., January 12, 1909.

Hon. ROBERT T. DEVLIN, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

DEAR SIR: I have your circular letter requesting information in regard to the data for report upon the new reformatory of your state.

I am sending you under separate cover such literature as we have. The copies of the laws I am all out of and can not furnish them, but I will request the secretary of state, if they have some unbound sheets, to send them to you. I am sending you the rules and regulations for the government of officers and prisoners.

If the major part of the work can be done by inmates, a set of buildings to accommodate 1,000 men could be built in this section of the country for about $1,000,000. At the present time I am building such an institution in the eastern part of New York state, consisting of 1,000 cells, with wall inclosing 22 acres, a power house, trades school buildings, bath-house and laundry buildings, domestic buildings containing dining-rooms and kitchen, bakeries, etc., making a complete institution, which will cost about $1,300,000.

About one half of this work was done by contract labor previous to its being taken up by our present board of managers; the other half is being completed by prison labor. If the whole had been done by prison labor it would probably have been built for $1,000,000. The institution at Elmira to-day has cost about $2,000,000, with a capacity for 1,500 people.

In relation to salaries, will say that I am superintendent of two institutions, my salary being $5,000 per annum, with maintenance for myself and family. My assistant superintendents receive, respectively, $3,000 per annum and maintenance for themselves and families. The physician receives $2,000, the clerk $1,500, trades school director $1,800, school of letters director $1,500, military instructor $1,500, physical instructor $1,500, instructors in the different trades $84 per month, chief guards $85, ordinary guards $75, engineer $1,200 per annum, chaplains $1,100 each per annum.

We averaged at this institution last year 1,529 inmates. From our records it appears that about 75 per cent of the men do not come before the courts again.

In completing a new institution there should be cell room sufficient to furnish a cell for each prisoner confined in the institution. There should be ample buildings to contain kitchens, bakeries, store houses, refrigerating plants, etc., with dining-rooms, and administration building containing officers and superintendent's residence; suitable buildings for laundry, bath-house, tailor shop, shoe shop, and clothing rooms sufficient for the needs of the institution.

There should be suitable buildings for the teaching of trades, a gymnasium building for the physical culture work of the institution, and if the military system is incorporated, a suitable armory. There should also be a good chapel, and a good school house.

I believe that the organization should be placed under a board of managers composed of five members, appointed by the governor for a period of five years, one dropping out each year to give permanency to the organization. This board should appoint the superintendent, the superintendent appointing all other officers, requiring confirmation by the board of managers.

All sentences to the institution should be indeterminate. The law should give the board of managers broad powers, not attempting to define the work of the institution too closely within the statutes, but giving them the power to make rules governing the reformatory and the release of prisoners.

The age of those committed to the reformatory should be from sixteen to twenty-five years. The location should be where a good water supply can be obtained, and where immediate connections can be had with one of the important lines of railway. There should be good opportunity for sewage disposal. There should be a farm of at least 1,000 acres connected with the institution.

Regretting my delay in answering this, and assuring you that if I can be of any further assistance to you I shall be glad to have you call upon me, I remain,

Respectfully yours,

JOSEPH F. SCOTT, Superintendent.

STATE OF NEW YORK.
OFFICE OF
THE PRESIDENT OF THE STATE COMMISSION OF PRISONS.
CHARLES F. HOWARD, M.D., President.

1458 MAIN STREET,
BUFFALO, N. Y., January 27, 1910.

ROBERT T. DEVLIN, *Esq., President Board of Prison Directors, San Francisco, Cal.*

MY DEAR SIR: Some time since you wrote me for information in relation to the construction of a prison plant. I sent you what I had at hand at the time, and I have thought that possibly you could give additional information which might assist your friends throughout the country in "steering" you right. Here are a few questions you might answer:

1. What is your prison population at the present time, and how rapidly is it growing?
2. Will you finally have two large prisons?
3. What industries would be likely to be most desirable and profitable?
4. What is number of first termers now in prison?
5. What is number of second termers now in prison?
6. What is number of third termers now in prison?
7. What is number between the ages of 16 and 30?

You might as well start out with all the advanced ideas of penology. We have industries in the prisons of this state, and our output amounts to almost a $1,000,000 a year. We sell nothing in the open market. Our law is that all local officials throughout the various cities and counties of the state must purchase all furnishings for municipal buildings from the prison department. If our department can not furnish what is desired I give a release, and then all such can be bought in the open market. The city and county treasurers will not pay bills without my release is attached. We have no trouble with labor unions. They understand that the state wants it that way. Our total output represents just .005 per cent of the total output of the whole state. So the free mechanic makes .995 per cent of all goods manufactured, which ought to satisfy him.

I just returned this morning from a tour of inspection of institutions, new and old. We are about to build two prisons, the total cost of which will be $4,000,000. One is already under way, and $350,000 has been spent.

Pardon me if I bore you with too much talk.

Sincerely yours,

CHAS. F. HOWARD.

STATE PENITENTIARY.

C. S. Reed, Superintendent.

Walla Walla, Wash., January 3, 1910.

Mr. Robert T. Devlin, *Room 13, Ferry Building, San Francisco, Cal.*

Dear Sir: I am in receipt of yours of December 16th regarding data, report, etc., concerning our reformatory institution, and beg leave to say that I have transmitted the same to the superintendent of our state reformatory, Mr. Cleon B. Roe, at Monroe, Washington. I am satisfied he will be glad to give you the information asked for.

I remain,

Yours very respectfully,

C. S. Reed, Superintendent.

WASHINGTON STATE REFORMATORY,

Monroe, Washington.

Board of Managers:

Corwin S. Shank, *President.*
Fred Reeves, *Vice-President.*
Frank C. Jackson, *Secretary.*
John Hansen.
M. A. Langhorne.
Cleon B. Roe, *Superintendent.*

January 21, 1910.

Hon. Robert T. Devlin, *President State Board of Prison Directors, San Francisco, Cal.*

My Dear Sir: Some time since I received a letter from Hon. C. S. Reed, superintendent of our state penitentiary, enclosing a letter from you requesting information concerning our state reformatory. We shall be unable to furnish you any statistics of the institution which will be of any value to you, for the reason that the institution is new.

We received the first prisoner direct from the court September 10, 1908, since when 202 prisoners have been received. As no inmate of the institution can be paroled in a shorter time than one year, we have on parole only fifteen young men. All of these have honorable employment and have reported regularly every month since paroled.

I have requested Hon. Frank C. Jackson, secretary of our board of managers, to mail to you a copy of the law creating and governing the institution. I am sending to you under separate cover a copy of our manual for use of inmates, which contains rules for their government, conditions of parole, advisory suggestions, etc. I enclose herewith copy of general rules and regulations relating more particularly to the guards. We have not as yet advanced to a point where a full organization of officers has become necessary, and for this reason have not prepared rules governing them. We shall in the near future, however, prepare a set of rules governing all officers and employees of the institution and assigning to them their respective duties. When these are printed I shall be pleased to furnish you with a copy.

Our buildings consist of temporary quarters for guards, two wooden bunk houses, a new barn, and quarters for the inmates. The barn was built last summer, and has a concrete basement intended for the cow stalls, but now used as a kitchen and dining-room for the inmates. The first floor is used for a sitting room, schoolroom, and chapel, and the mow as a dormitory. We are now at work on foundations for permanent buildings, which are designed to be fireproof and include the best modern ideas for a reformatory.

You ask for "a general outline of what your experience may suggest as to the best thing for us to do in California." Since we are just beginning to do what we believe to be the best thing for the State of Washington to do along reformatory lines, perhaps I could do no better than to tell you briefly what we have done and propose to do.

First—The selection of a site to consist of not less than five hundred acres of good, fertile land, near the center of population of your state. Transportation facilities must be considered. Fuel and building materials on the land are a valuable asset. Our site is one mile from the railroad, very fertile soil, good brick clay, an abundance of wood for burning brick and for fuel, and no end of sand and gravel on a river bar near by.

Second—The buildings. Our plan provides for an administration building to contain officers' kitchen, dining room, reading room, club room, barber shop, etc., in a half basement. On the first floor there will be board of managers' room, superintendent's office, private offices, offices for clerks, vault for records, a reception room, and rooms for assistant superintendent, chaplain, physician, engineer, and captain.

The second story will be bed rooms for the officers and guards. The second story of the administration building will connect with the main cell building by a passageway sixteen feet in length. This cell building will be six hundred feet long, and contain six hundred and forty cells. Passing through the center of the cell wing there is a corridor sixty-four feet in length, which connects the main cell wing with another building four hundred and sixty feet long and three stories high. This building will contain kitchen, bakery, and dining-room on the first floor, schoolrooms and library on the second floor, and hospital on the third floor, in the north wing; and tailor shop, clothing room, shoe shop, printing office, laundry, and bath on the first floor, chapel and gymnasium on the second and third floors, of the south wing. Another passageway from the center of this building sixty-four feet in length will connect with another cell block to contain three hundred and eighty cells. Thus we have three parallel buildings connected with the administration building by a corridor running through the center from east to west. The buildings face east.

I enclose herewith postcard which will give you an idea of the general plan, although the style of architecture has been changed. The fourth building, checked with pencil marks, will be omitted. The style and arrangement of the administration building has been changed, so that the card does not well represent the architecture of our present plans. The buildings in the rear are a power house and trades school buildings. The enclosure to contain not less than fifteen acres.

We are planning the physical, mental, and moral development of the prisoner and his industrial and economic instruction, under rigorous and exacting discipline. We shall have a suitable hospital, baths, and gymnasium in order to overcome in a degree the physical defects so often manifested in criminals; a well organized school of letters for his mental quickening, with abundant practical instruction in ethics, morals, and religion. A thorough system of manual and trade schools for his industrial training, and military discipline for inculcating promptness in obedience, attention, and harmony of action with others. The space between the rear cell building and the trades school buildings will be used for a drill ground and outdoor sports, baseball, lawn tennis, croquet, etc.

Our purpose is to discover the good that is in each one and to develop that, to train the hand, head, and heart; to give him a proper understanding of himself and his relation to society, a desire and strength for an honest life; and then see to it when he is paroled that he has a guarantee of honorable employment where a fair chance will be given him to demonstrate his fitness for citizenship.

I took up reformatory work fourteen years ago, and have visited the leading reformatories of this country from the Atlantic to the Pacific. I am familiar with the buildings, equipment, methods in use, and results accomplished in each institution visited, and I am personally acquainted with a large number of men who have given the best part of their lives to this work; have attended the American prison associations, the national congress of charities and correction, and am deeply interested in all such movements.

I say to you, do not hesitate to recommend to your legislature the establishment of a reformatory. Do not hesitate to invest finally from two and one half to three millions of dollars of the people's money in this plant. Do it with the assurance that under proper management at least eighty-five per cent of those committed to the institution will be returned to society and prove worthy citizens of your state, and their children will become supporters of your institutions instead of inmates of them.

Hon. Corwin S. Shank, president of our board of managers, prepared the act creating this institution. No man of my acquaintance is more interested in reformatory work or more competent to offer advice or suggestions to you at this time than Mr. Shank. He is a frequent visitor in your city, and I know will be glad to call on you and will render you any assistance in his power. Address him at 1001-5 Alaska Building, Seattle, Wash. If I can be of any further service to you in this matter, please command me. I am,

Very truly yours,

CLEON B. ROE, Superintendent.

THE STATE OF WASHINGTON,
HOUSE OF REPRESENTATIVES.
FRANK C. JACKSON, Forty-seventh District, Seattle.
Committees: State Penitentiary; chairman Municipal Corporations of the first class; Revenue and Taxation; Railroads; Tide Lands.

January 29, 1910.

Hon. ROBERT T. DEVLIN, *President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

DEAR SIR: Under separate cover I am forwarding you copy of the law creating the Washington state reformatory, and being chapter 167 of the laws of 1907.

We will be glad to forward you any information bearing on this question which we may have, and trust you will feel at liberty to make request for anything which we can give you.

The writer, who introduced the bill creating this institution in the 1907 session, made a trip to eastern states, including New York, Massachusetts, Illinois, and Ohio, prior to the introducing of this bill, and found the information obtained on this trip of great use and assistance in securing the passage of the act.

Wishing you success in any attempt to secure a similar institution in California, I am,

Yours very truly,

FRANK C. JACKSON.

THE REFORMATORY, ANAMOSA, IOWA.
MARQUIS BARR, Warden.
Board of Control of State Institutions.
JOHN COWNIE, Chairman.
JOHN F. WADE.
G. S. ROBINSON.
F. S. TREAT, Secretary.
Officers of the Reformatory.
H. P. SMITH, Deputy Warden.
S. DRUET, Physician.
J. H. LOWE, Asst. Deputy Warden.
FELIX H. PICKWORTH, Chaplain.
C. A. BEEMS, Clerk.
MISS ANNA TREMAN, Matron.

ANAMOSA, IOWA, January 6, 1910.

ROBT. T. DEVLIN, *President State Board of Prison Directors, San Francisco, Cal.*

DEAR SIR: Yours of the 16th ultimo to Warden J. C. Sanders of the state penitentiary at Fort Madison, Iowa, has been forwarded to me for answer. In doing so I wish to state that this institution was built for a penitentiary, but was made a reformatory July 1, 1907. We now receive men under thirty years of age only, except that we have a female department in which all females convicted in this state are kept. Being new in the work, I hardly feel that I am competent to answer your questions fully. However, I will do the best I can.

In order to carry out the reformatory work we have established a school of letters and trade schools in the institution, so far as we have been able to do so with the means at our hands.

Complying with your request I will send you under separate cover a copy of the laws creating a board of parole, the rules laid down by them governing paroles, a copy of the rules governing the institution, rules governing officers, and our last biennial report.

The value of the buildings and grounds is $1,668,293.52. This covers about twelve acres of ground. It is surrounded by a stone wall 27 feet high, two cell houses, insane and female departments. The total number of cells is 828.

The warden receives $2,000 per year, house rent, light, and fuel; deputy warden, $1,200 per year, house rent, light, and fuel; assistant deputy warden, $1,000 per year, no other perquisites; clerk, $1,200 per year, no other perquisites; chaplain, $1,200 per year, no other perquisites; matron, $900 per year, no other perquisites; guards, from $50 to $65 per month, no other perquisites.

The cost per inmate per day, including officers' salaries, is .717 for the year ending June 30, 1908.

Under our law the secretary of the board of parole keeps records of all paroled inmates, so that I can not give you the exact per cent that make good, but think I am safe in saying that 60 per cent do so.

My experience in reformatory work is so limited that I hardly feel competent to advise you what to do in your state, but would advise the building of a modern prison with the idea of introducing schools of letters and trade schools for the purpose of preparing young men to again enter into society and make an honest living.

Very truly,

MARQUIS BARR, Warden.

EASTERN STATE PENITENTIARY.

R. J. McKenty, Warden.

Inspectors.

Murrell Dobbins, President. John E. Hanifen, Treasurer.
Chas. D. Hart, M.D., Secretary. Charles Carver.
Robert A. Balfour.

Philadelphia, Pa., January 13, 1910.

Robert T. Devlin, *Esq., President State Board of Prison Directors, Room 13, Ferry Building, San Francisco, Cal.*

Dear Sir: Your letter of December 16, 1909, received and an answer has been delayed until the present in order that we might have time to send you as full and correct replies to your questions as possible, which here follow seriatum, with copy of your letter for reference.

1. We are sending you copies of our laws creating and governing our institution. You will please observe that many of the laws are very old, *i. e.*, 1829, and have been considerably modified to meet modern conditions. For instance, through our unfortunate overcrowding we often have to place three in a cell, and on account of labor laws are in some cases unable to enforce the labor to which the prisoners are sentenced. We also have better food conditions now than are prescribed in the old laws.

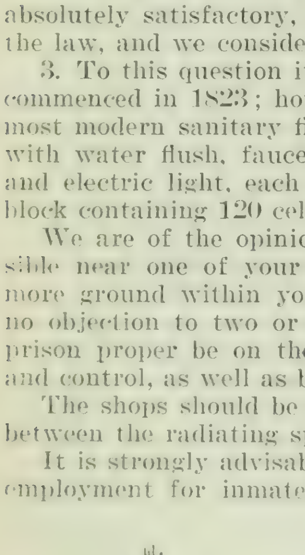
2. We are sending you copies of our parole laws, which up to date have proved absolutely satisfactory, and there is no friction whatsoever in the administration of the law, and we consider them most excellent.

3. To this question it is impossible to give accurate answer, as our institution was commenced in 1823; however, our recently built new block of reinforced concrete with most modern sanitary fittings and appliances, which consist of a heavy porcelain pot with water flush, faucet with running water in cell, steam heat, forced ventilation and electric light, each cell being 15 feet by 7 feet, with 10-foot ceiling, and whole block containing 120 cells, cost (the labor being done by prisoners) $60,000.

We are of the opinion that a penitentiary is best situated in the country, if possible near one of your great centers, having advantage of railroad facilities. The more ground within your walls the better will be your health conditions. We see no objection to two or even three tiers to each block, and strongly advise that the prison proper be on the radiating system for economy and efficiency of supervision and control, as well as being a distinct aid to ventilation.

The shops should be placed to suit your convenience, and may be placed in spaces between the radiating spokes, as per small plan.

It is strongly advisable that ground enough be provided for a farm, thus providing employment for inmates raising your vegetables and consequently reducing cost of maintenance. Further, it would be strongly advisable in selecting your ground to select some having strata of rock that might be quarried by inmates and used in the erection or extension of your plant. A good water supply and drainage is obvious.



4. We believe in having a fixed salary list, with no increase: $1,000 for overseers and $800 for watchmen. All employees should have some trade or special calling that may be of use in teaching the inmates. The posisions should be permanent under good behavior, and absolutely divorced from politics. We can not be too strong on this point. Young men, as far as possible, to be employed.

5. Our total cost of support, as figured in our fiscal year just closed for an average population of prisoners of 1,539, is 19.57 cents per capita per diem, consisting of subsistence (food), 11.37 cents, and general expense, 8.20 cents.

This expense is paid by the counties sending prisoners to the state institution. The state pays for maintaining the prison building and salaries for all officers, giving us last year $88,666.30, of which $80,416.30 was for salaries of all officers; the remainder, for repairs $4,250, and library $400. Our roll of employees numbers 81. This cost could be considerably reduced did not our labor laws interfere.

6. Our number of inmates averaged last year 1,539.

7. Our parole and indeterminate sentence system being of recent enactment, we hardly feel qualified to answer this question. But under our former commutation system where men had fixed terms, we believe that but a small percentage (not possible to say accurately) continued in crime.

As to the final and general question, we believe that for the efficient management of a prison or reformatory institution, first and foremost, and in fact, absolutely necessary, is the selection of an efficient man for warden. He is necessarily the keynote of the whole management. He should be a practical man, interested in his work, and having a knowledge of the classes with which he has to deal. He should be humane, and above all just. You will find no man too good for this position, and it necessarily follows that it should be highly salaried.

The indeterminate sentence and parole system we consider the best of all systems. If you have fixed sentence with commutation, exercise the commutation power strictly. The keynote of prison management is impartial justice.

Modern sanitary ventilating and lighting systems are necessary. Food plain, substantial and well cooked. Medical arrangements of the most modern type, including dentist and oculist. Exercise (army setting-up exercises) as part of the daily regimen. An elementary school, a good library, and in connection with this a correspondence school for the more advanced prisoners. (See copies of papers.) No corporal punishment. No dark cell. Abolish all old measures tending to debase a man's self-respect, such as striped clothing, lockstep, treadmill, silent system, shaving of head, etc. Experience shows that these have absolutely no effect for good. Punishment by isolation in a well lighted cell on bread and water, with the knowledge that his good conduct record will suffer, will soon bring without any brutality the most recalcitrant to terms and will avoid his posing as a martyr.

Religious instruction should be encouraged to the greatest possible extent and with the widest latitude, and every prisoner allowed to worship according to the dictates of his own conscience.

Trade schools are absolutely necessary, not only to give employment in prison, but to give opportunity to earn a livelihood when released. This holds particularly with the younger inmates. The officers should use every effort to obtain employment for a prisoner upon his release. A prisoner should be allowed to earn a small amount for his personal use, and the rest returned to the state.

Prisoners should be allowed suitable recreation hours in their cells, say from 6 to 9 p. m., and to play musical instruments and enjoy themselves in an orderly manner. The establishment of a band, both brass and string, we find aids the discipline of the institution.

As far as possible, one man in one cell to be the rule; if not possible, put three men in a cell, never have two only.

Visits and letters should be restricted to about once a month. All daily newspapers prohibited. Nothing to be brought in from the outside, except suitable books, a pet bird, or musical instruments. No eatables at all. The friends and relatives may leave money with the office. This may be used within reasonable limits for the purchase by the prisoner of such extras as may be allowed, such as pipes, tobacco, bird seed, etc. These goods to be purchased by the institution and sold to the prisoner at cost price, thus avoiding the bringing in of contraband goods.

We believe that the limited use of tobacco may be permitted as helpful to discipline.

Clothing of prisoners to be suited to the climate and to be absolutely uniform, thus doing away with any chance of favoritism. Also, they should all receive the same food except those on the sick list, for the same reason, *i. e.*, favoritism is the most dangerous thing in prison management.

Lastly, the warden and all officers must show a lively interest and sympathy in each and every inmate regardless of his condition or crime, and all inmates should be allowed to communicate with the board or warden in a sealed envelope to be furnished by the institution.

In closing we wish to reiterate, and as strong as we can, that impartial justice is the keynote to the efficient handling of criminals.

Trusting that this reply to your letter may be of some use to you in your most important work, and trusting that you will not hesitate to further call upon us for anything we can do for you, as we shall consider it a pleasure as well as a duty to do so, as yours is a work of humanity, we are,

Respectfully yours,

CHARLES D. HART.
Secretary, Board of Inspectors, Eastern State Penitentiary.
ROBT. J. MCKENTY, Warden.

PENNSYLVANIA INDUSTRIAL REFORMATORY.

HUNTINGDON, PA.
T. B. PATTON, General Superintendent.
Managers.
LYMAN D. GILBERT, *President*, Harrisburg. JOHN D. DORRIS, Huntingdon.
A. G. MORRIS, Bellefonte. GEO. H. STEWART, Shippensburg.
JAMES D. LANDIS, Lancaster.

HUNTINGDON, PA., June 22, 1910.

TIREY L. FORD, *Esq., President State Board of Prison Directors, 623 Balboa Building, San Francisco, Cal.*

DEAR SIR: I take pleasure in replying to the inquiries contained in your letter received some days since, answering your inquiries in a general way and giving names and addresses of persons from which I think you can obtain such information as may not be covered in my reply, although if I can be of any further service to you in furnishing information I hope you will feel free to write me.

We have in Pennsylvania two state penitentiaries, the Western, located at Allegheny, Pa., of which John Francies is the warden, and the Eastern, at Philadelphia, of which Robert J. McKenty is the warden.

We have two institutions to which the younger class, both boys and girls, may be committed for incorrigibility or for the commission of crime. One of these is a wholly state institution, the Pennsylvania Reform School, at Morganza, Pa., Wm. F. Penn, superintendent. It is located in the western part of the state. The other, the House of Refuge, a more extensive institution, is not purely a state institution, although the state makes an appropriation towards its maintenance. It is, however, to an extent under the control of the city of Philadelphia, the largest city in our state, and supported to a large extent by the city. It is located at Glen Mills, Pa., and Colonel F. H. Niebecker is the superintendent.

Each one of the counties in the state has its own prison. We have no local reformatories or reform schools to which commitments are made other than the Pennsylvania Reform School and House of Refuge already referred to, although it sometimes occurs that the court will commit a youthful offender charged with incorrigibility or truancy to the care of a Catholic protectory, where such request is specially made. This, however, is not often done.

The Pennsylvania Industrial Reformatory was opened in 1889, and is the only reformatory in the state. The number of commitments made thereto up until to-day is 7,251; count to-day is 753. The institution is for males only, who are supposed to be first offenders between the ages of fifteen and twenty-five years. Our courts, however, put rather a broad construction on the matter of a first offender, and sentence here any one who is not known to have previously been an inmate of a state penitentiary in this or any other state, so that we get a number of young men who are not sent here on their first conviction but may have been inmates of county jails, or workhouses, or houses of refuge before being sent here. No one can be sent here for simply incorrigibility or truancy, that not being a real offense against a state law, but they are sent here for every other crime, with the exception of murder in the first degree. All sentences are indeterminate, although no one can be held for a longer period than the maximum prescribed by law as a punishment of the offense of which the individual was convicted.

All regulation relative to the care and release of inmates is wholly under the control of the board of managers, although no inmate is released until after he has been here for about thirteen months, while many have their terms fixed by the board and are held for much longer periods.

It is a somewhat difficult matter to obtain reliable statistics as to the number of men who are really reformed, but from the best information we have been able to obtain we feel satisfied that sixty per cent of our inmates live respectable lives and do not get back into crime. We feel that this is a low average rather than a high one, and we have been unable to learn that anything near like forty per cent of our men get back into trouble again. Indeed, the percentage of those we know who do commit further crime is very much less than forty per cent. We are aware that some reformatories claim a larger percentage of men who make good, and I hope their estimate is all right; but I feel well satisfied that the percentage I have given you is a safe one for our institution.

Now, with reference to the cost. Pennsylvania is liberal in the appropriations which the state makes to its public institutions and private charities. For some years after the institution was opened certain manufacturing industries were carried on therein, the product of which was sold under certain conditions in the open market and the revenue from which helped to pay the cost of the maintenance of the inmates and therefore reduce the running expenses each year. The labor organizations some years ago, by united effort, had enacted laws which practically put a stop to prison labor. Under existing laws, nothing can be manufactured in a prison whereby any power-driven machinery whatever is used in its making. Foot power or hand power is permitted. Besides this, the percentage of prisoners which can be used in the manufacture of any one article is limited. As a consequence, this law put a stop to our manufacturing such articles as we had been making in our institution, so that for some years past we have had no remuneration whatever from the labor of inmates, and we are not manufacturing anything whatever in the institution for sale in the open market. We manufacture everything we can for our own use, and we have reorganized our work and have introduced trade schools, each department being under the care of a skilled instructor or mechanic, and we require every man who comes under our care to work at something that we think will be helpful to him on his return to the outside world.

As to the payment of the cost of the running of the institution, the counties from which our inmates come are required under our state law to pay what is known as the maintenance of the inmates; but in our state this maintenance not only consists of the food and clothing but the cost of the coal for heating and lighting, the furnishing of the cell, medicine, horse feed, and a number of other items. The state makes an appropriation for the payment of the salaries of the officers, for the erection of new buildings, or other general repairs to buildings. All other appropriations, which are specific in their character, can only be used for the particular item for which appropriated.

The total expense of the institution for 1909, including salaries and all that was charged to the counties under the head of maintenance, was $185,298.69, or a cost of about 65½ cents per day per man. This may seem a high rate, but on your reading the last two reports which I will mail you you will possibly see that our men have some advantages in the way of schooling, etc., which would at least serve to minimize the cost. Our teachers are professional school teachers permanently employed, and we do not use inmates in any connection, either as teachers or as monitors. Another item which serves to increase the per capita cost is the fact that the labor organizations had a further law enacted making eight hours a day's labor in the penitentiaries and this reformatory, so that instead of our having two sets of officers as we used to have, we now have three details working eight hours a day.

The cost of the buildings and property owned by the state, including our farm, amounts to about $1,200,000. The salaries paid the officers and employees are graded according to the position occupied, beginning as guards at $61 and extending to officers in charge of departments at $110 per month. Chaplain, physician, and superintendent of schools average about $1,500, chief clerk $2,400, deputy superintendent $2,750, and general superintendent $5,500. The last appropriation for salaries granted by the state covering a period of two years was $210,684.

Each one of our state institutions in Pennsylvania has its own board of managers or control, who have the absolute direction of its affairs. We have in the state what is known as the state board of public charities, appointed by the governor, who have a certain control of state institutions and are expected to be consulted about the erection of new buildings or extensive repairs, and through whose hands all appropriations for state institutions must go before being submitted to the legislature. The secretary of this state board of public charities is Mr. Bromley Wharton, with office at 714 Bulletin Building, Philadelphia. This board has nothing whatever to do with the appointment of the officials of the state institutions. The governor appoints the members of the board of managers or directors of these institutions, and they make appointment of their own officers. The board of charities compiles certain reports which have to be forwarded them from not only the penal institutions but from the state hospitals, and Mr. Wharton can likely furnish you any desired information on this subject.

Now, on the subject of release on probation or parole. At the last session of the legislature an act was passed authorizing the release on probation of certain convicts instead of imposing sentence; the appointment of probation and parole officers and the payment of their salaries and expenses, regulating manner of sentencing convicts in certain cases and providing for their release on parole. This act was approved May, 1909, and while it is now in effect so far as imposing sentences is concerned, I doubt whether there have been any releases on parole from either the Eastern or Western Penitentiary, to which alone the act referring to parole applies. Correspondence with the wardens of these penitentiaries, whose names I have given you, will furnish you information about this. I regret that I do not have a separate copy of this act which I could forward you, but suggest that you write to Hon. Robert McAfee, secretary of the commonwealth, at Harrisburg, Pa., who I think would be glad to forward you a copy of act No. 275, laws of 1909.

Now, so far as the reformatory is concerned, we have had the parole law in operation here since the opening of the institution, and by reference to the tenth biennial report, a copy of which I am sending you, on page 29 you will get an idea of how this system works with us. We feel that our institution has been very successful on the parole question. Of course violations of parole must be expected, but the important thing is to have your work so organized that you will to a large extent be able to arrest and return the violators. This always has a salutary effect on the men who are awaiting their time to be released in the same manner. While the law does not authorize us and is silent on the matter of the taking of photographs and the use of the Bertillon measurements, this has always been done here, and is likewise in use in both the Eastern and Western penitentiaries. With us, we are very careful not to give out any photograph or description unless the individual has committed further crime, when, on request, we will furnish to a properly accredited officer a photograph and description of the individual.

I take pleasure in mailing you a pamphlet containing the acts of assembly printed some time ago, but which has the information relative to the government of the institution therein. Also, a book of rules for the government of the officers, and conduct report book for the government of the inmates, with the last two copies of our biennial report, and trust these may be of service to you in furnishing you the information asked for.

Yours respectfully,
B. Patton, General Superintendent.

UTAH STATE PRISON.

Salt Lake City.
Arthur Pratt, Warden.
State Board of Corrections.
Governor William Spry, President. Dr. G. S. Pfoutz. S. W. Stewart.

Salt Lake City, January 17, 1910.

Hon. Robert T. Devlin, *President State Board Prison Directors, San Francisco, Cal.*

Dear Sir: Wishing to assist you in any way that is possible, I take pleasure in answering your communication of December 16, 1909.

To reform prisoners I think it absolutely necessary to keep them employed in some manner at all times by work and study, to have officers and guards who are moral men, neat in dress and gentlemanly in deportment, strict in enforcing the orders and rules governing the prison or reformatory.

Men of this kind can be obtained by paying reasonably good salaries, and not making political appointments.

When boys or men are sent to a prison or reformatory let them know that they will not be degraded by being placed in striped uniforms and walk with lockstep as long as their conduct is good, and that only when they degrade themselves by bad and vicious conduct will they be placed in stripes.

We have adopted the dark gray uniform for first grade prisoners, the cadet gray for second grade prisoners, and the striped uniforms for the third grade or prisoners under punishment. The warden or deputy warden is the only person to punish prisoners. Our state law makes it the duty of the warden to keep the prisoners singly in a cell, and I think this is very necessary for obvious reasons. Prisoners should be provided with good and sufficient food, have plenty of exercise in the open air, and be compelled to keep their cells and all parts of the prison scrupulously clean.

You state you desire information on the following points:

1. Copies of the laws creating and governing your institution.
2. Rules and regulations for the management of the reformatory.
3. Cost of buildings and general outline of their extent.
4. Salaries paid to officers and and employees.
5. Total cost of support, including salaries of institution, and cost per capita.
6. Number of inmates.

To all of the above inquiries I will send you the information under separate cover.

To your question No. 7—What percentage of those discharged "make good," and what per cent do not? I will state that I know of no way that this question can be answered truthfully. I presume a great many wardens and superintendents and reformers will attempt to answer, but I will state frankly I can not.

Although I have had the pleasure of visiting your prisons at San Quentin and Folsom it is a little presumptuous for me to suggest or outline the best thing for you to do in California; but from the light of my experience at the Utah state prison, I would suggest that you procure several hundred acres of good productive land in some central portion of your state to start to build such an institution as you desire.

You can give your inmates what I consider the very best kind of employment on a farm, raising all the vegetables and fruit that can be used at your penal institutions, and in addition to this you can have a dairy. At our Utah prison we are at the present time sending to Nebraska to purchase registered Jersey cows, and we have recently purchased ten head of registered Guernsey cows. We are going to try and have the best herd of registered stock in this state.

We are raising some good horses, hogs, chickens, geese and turkeys. We are trying to purchase more land (we have now 185 acres), and will go extensively into fruit growing.

I believe prisoners employed on a farm of this kind have better health and are better men, and will be more easily reformed to be thus employed.

I find that my report is getting quite voluminous, but I want to say something about cell houses. Cells should be constructed of steel. Experience and investigation convinced me that steel is the safest, most durable, and sanitary construction. Cells should be 5 feet wide, 7 feet deep, and 8 feet high, and would recommend the utility niche system, which enables the placing of the water closet in each cell in an extended niche in back of cell, thus placing all water pipes outside of cell; this niche also is used as a means of ventilating the cell. Cells should all have a prisoners' exercise corridor at least 5 feet wide in front of cells, and a guards' corridor of 6 feet in width extending the entire length of each cell block.

Would recommend that cell house be built on the classified system. The floors of each tier of cells to extend to walls of building all around, thus forming a guards' corridor. This extended floor enables the guards to give each individual man and cell the proper supervision without coming in contact with the prisoner. This seems to me necessary in a reformatory where a certain number of prisoners are first offenders, or young in crime.

Would also recommend that the prisoners' corridor grating be constructed of tool-proof bars. This point may not appeal to you at first, but my experience has taught me that it is the proper construction, and once tried will always be used.

We find that prisoners confined within tool-proof construction soon lose the desire to attempt to get away, their conduct is better, and the reason is that the bars being tool-proof the prisoner, should he attempt to cut or destroy them, finds that it is impossible, so the incentive to escape is taken away. For the last year we have had fifty men confined in this class of cells, and not one attempt to escape. The cell floors and corridor floors should be made of steel, covered with granitoid for sanitary reasons, and as a deadener of all noise.

We have recently constructed what we think is the most modern cell house in the United States, and this we did after much investigation and visiting over twenty states and institutions. Our cell house contains 200 cells, the doors are all locked or opened by a lever at the end of each tier, and one guard can handle 200 or more prisoners with perfect safety. I will enclose you a photograph of one side of the fourth tier of our cells, showing office, prisoners' corridor, and cells, and guards' corridor. There are fifty cells on this floor.

In conclusion, will state that we would be pleased to have your board or any person you may designate visit our prison, where you may see the cell house I have attempted to describe.

The information you desire:

To No. 1. See compiled laws of Utah, 1907.

No. 2. Enclosed will find rules governing Utah state prison.

No. 3. Can not furnish.

No. 4. See list enclosed.

No. 5. Total cost of maintenance including salaries, our last biennial report, 48⅓ cents per capita.

No. 6. Average daily number of inmates, 283 year 1909.

Very respectfully,

ARTHUR PRATT, Warden.

Photograph of cells will send later. A. P.

Salaries of officers and employees of Utah state prison: Warden, $208.35 per month; deputy warden, $125; clerk, $100; matron, $50; physician, $100; commissary, $85; superintendent of buildings and machinery, $100; superintendent of shops, $90; superintendent of farm, $90; guards, $85.

INDUSTRIAL REFORMATORY, STATE OF KANSAS.

CHARLES A. RICHARD, Superintendent.

Office Force.
BERT S. BERRY, Assistant Superintendent.
CHAS. H. BRILHART, Chief Clerk.
W. A. CRAWFORD, Parole Officer.
M. G. MCKENZIE, Chaplain.

Board of Managers.
PHILLIP KELLEY, Chairman.
THOS. W. MORGAN, Treasurer.
RICHARD J. HOPKINS, Secretary.

Established 1885. Opened 1895.

HUTCHINSON, KAN., January 17, 1910.

ROBERT T. DEVLIN, *President State Board of Prison Directors, San Francisco, Cal.*

DEAR SIR: Your letter of the 16th at hand, sent to J. K. Codding, warden of the state penitentiary, has been referred to me for answer.

I will take up your questions as submitted and give you what information you ask, and further information will be found under separate cover, in which will be sent the rules governing the inmates, the officers, our biennial reports showing salaries, cost of subsistence, and other facts of the institution.

In answer to question 1, you will have to send to the secretary of state and secure copies of the laws creating and governing this institution.

Question 2 will be answered in the circular sent you.

Question 3. We have enclosed within the wall nineteen acres, which includes the administration building, three cell houses and the fourth one to be completed later, the shops, etc. In connection with the institution there are two sections of land, and this is a most profitable thing in connection with an institution of this kind.

Question 4 will be answered in the circulars sent. We have at present 365 inmates; this is about our average. Sixty per cent of the men paroled make good; our records show 76 per cent, but we place 60 as a good, conservative percentage.

As to suggestions for the best thing for the institution, will say that one of the best things is to eliminate from the institution politics and place it on a meritorious basis, and enable those who are employed in the institution to make a permanent occupation or profession of their work. The trades should be put on a systematic basis, a course of study should be outlined and followed, the school of letters should receive special attention, as at least 40 per cent of the men you receive in your institution will be below the third grade, so you can do nothing better for this class of men than to put in a good school of letters equal to the schools on the outside. With a well regulated school of letters and trades taught intelligently from an intelligent course of study, together with the religious influence of the chaplaincy, will be productive of much good.

If I can give you any further information I will gladly do so.

Very truly yours,

CHAS. A. RICHARD, Superintendent.

MISSOURI TRANING SCHOOL FOR BOYS.

Boonville, Missouri.

Officers of School.
C. C. MCCLAUGHRY, Superintendent;
EDGAR WARDEN, Asst. Superintendent.
JOHN S. MATTHEWS, Secretary.
M. E. SCHMIDT, Treasurer.

Board of Managers.
W. M. WILLIAMS, *President*, Boonville.
JOHN B. WOLFE, California.
W. G. PENDLETON, Boonville.
J. M. WILLIAMS, California.
E. A. CREWSON, Versailles.

BOONVILLE, MO., January 27, 1910.

Hon. ROBERT T. DEVLIN, *President Board of Prison Directors, San Francisco, Cal.*

DEAR SIR: I recently learned that California is preparing to build a new prison, to be planned and conducted as a reformatory institution, in keeping with the best thought in modern penology.

I am rather an enthusiast along that line, having served about twenty-three years as a prison officer through the grades of machinist, chief engineer, deputy warden, warden, and having helped to install and administer the indeterminate sentence and parole plan.

I take the liberty to suggest that if your board feels that it would like to have the results of the largest experience and best of judgment obtainable in the matters of location, selection of site, the quantity and quality of lands best adapted to the purpose, and the other and numberless questions which arise in the preliminary work of establishing such an institution, that you would do well to secure the help and advice of Dr. Charles F. Howard, of Buffalo, N. Y., president of the state commission of prisons of the State of New York.

He has been involved in such duties for a number of years for the various penal institutions of that state—prisons, reformatories, state farms, etc.—and if you could induce him to spend the time with you, you would undoubtedly find his aid of very great value.

Questions bearing on the successful management of a penal institution, because peculiar to penal institutions, are always involved in the initial steps of establishment. Therefore it occurred to me to suggest the advice and aid of Dr. Howard, whose ability and judgment I know to be of the best, as probably of great advantage to your board.

Very respectfully,

C. C. McClaughry,
Superintendent Missouri Training School.

NEW JERSEY REFORMATORY.

Frank Moore, Superintendent.

Commissioners: The Governor of New Jersey, ex officio.

George W. Fortmeyer.
Decatur M. Sawyer, President.
Freeman Wooderidge, Secretary.
Foster M. Voorhees.
Edward D. Duffield.
John Handley.
Michael T. Barrett.
William Edgar.

Rahway, N. J., June 15, 1910.

Hon. Tirey L. Ford, *623 Balboa Building, San Francisco.*

Dear Sir: Yours of June 10th, with questions concerning our reformatory, received. In answer to questions No. 1 and No. 2 I enclose you under another cover a copy of laws, also rule books covering officers and inmates, and draw your attention especially to that portion of the inmates' rule book which sets forth our policy on the question of parole, which I think is unique in its reward system. Answers to the other questions are as follows:

No. 3. Cost of buildings $1,500,000. Buildings comprise: two cell wings going out from a center dome, with provisions for two others, forming an (X) through a circle; this building is connected with a building in the back known as the "tie-to," which connects the dome with the domestic building, in which are the chapel, dining-room, schoolrooms, and drill hall. In the rear of the domestic building is the kitchen, with cold-storage plant, bakery, and officers' dining-room; 150 feet back of this group of buildings is an industrial building for trade schools; back of this about fifty feet is our power plant; back of the power plant, on either side about 100 feet, there is to be erected immediately two trade school buildings. Materials are now being purchased for the construction of a concrete wall 4,000 feet long, 27 feet high from its foundation, to inclose all the rear part of the institution. Outside of this enclosure on one side are greenhouses and garden, on the other side barn, hennery, piggery, and dairy. We farm about 300 acres. Salaries paid to officers and employees total $60,000.

No. 4. Highest salary paid is $1,800.

No. 5. Total cost of support last year for all purposes $133,000; cost per annum per inmate $240.

No. 6. Number of inmates at present 430.

No. 7. Eighty per cent of those who are placed on parole go perfect during the year they are on parole, and receive their absolute release at the end of that year. Our system does not follow them beyond the first year, hence it is not correct to say that 80 per cent are permanently reformed. We can not give definite figures as to this, but do know that a large per cent, and believe it is at least 60 per cent, are made into good citizens.

No. 8. All classes of first offenders, except murderers of the first degree and impeachments, are committed to our institution, the age being at present from 16 to 25 years, just changed by our last legislature from 30 years. The sentiment, however, is against the age limit of 25, and I believe it will be made 30, if not 35, during the next legislature.

No. 9. We have a state reform school which takes boys from 8 to 16. It is known as the New Jersey School for Boys, Jamesburg, N. J., Superintendent J. C. Kalleen.

No. 10. There are some local houses of correction, supported by counties, to which are committed juvenile offenders: Caldwell Penitentiary, Caldwell, N. J., and Hudson County Penitentiary at Snake Hill, N. J. In addition to these there are some Catholic protectorates.

No. 11. All of our charitable and correctional institutions are under the supervision of our department of charities and corrections. The commissioner is Dr. G. B. Wight.

No. 12. We have laws permitting our judges to place on probation first offenders, in fact any offenders that he may deem it wise, and this probation system is being very largely used.

No. 13. We have a board of pardons, which pardons from our state's prison; but all the parole work from our institution is done by our board of commissioners, which is considered a board of pardons.

No. 14. We have a thoroughly up-to-date Bertillon system in our institution, and reports of this are sent to both Washington and Albany.

Any further information that I might be able to give you I would be very glad to furnish.

Yours very truly,

FRANK MOORE, Superintendent.

NEW JERSEY REFORMATORY.

FRANK MOORE, Superintendent.

Commissioners: THE GOVERNOR OF NEW JERSEY, EX OFFICIO.

GEORGE W. FORTMEYER.
DECATUR M. SAWYER, President.
FREEMAN WOODBRIDGE, Secretary.
FOSTER M. VOORHEES.
EDWARD D. DUFFIELD.
JOHN HANDLEY.
MICHAEL T. BARRETT.
WILLIAM EDGAR.

RAHWAY, N. J., November 12, 1910.

Hon. TIREY L. FORD, *San Francisco, Cal.*

MY DEAR SIR: Herewith inclosed is photograph and ground plan of our institution. There are many things in connection with this plan which I think could be improved.

First among these is the large central dome, which was built at a great cost and gives a large open space hard to utilize. It would have been a great improvement, to my mind, if this central portion of the institution had been a building in which there could have been ample office accommodations, chapel facilities, as well, perhaps, as an hospital on the top floor.

The cell wings are too long by at least fifty feet for a man to be able to control them, and get best results in discipline.

The kitchen is excellent in many particulars, but would be greatly improved if the officers' dining-room had been put between it and the inmates' dining-room, so that the officers could enter without going through the kitchen.

The drill hall, on the top floor of the domestic building, is very poorly located, and is not a wise place, owing to the vibration upon such a large floor, either in military or physical drill. A building for such purposes should be on the ground floor, and should have a concrete floor.

The bathroom and laundry are very poorly located, in the basement cellar of this domestic building. That, too, should be on the ground floor, and to my mind it is ideal to combine them with the drill hall and gymnasium building.

The present officers' dining-room should be the scullery, and the scullery should also be a cold storage. It is a very wise thing in our part of the country to have ample cold storage facilities, as it very greatly cheapens the cost of maintenance.

The entire cost of our plant as it now stands is $1,500,000. The new cell wing, a model of prison construction, with steel cells, built by the Pauly Jail Building Company, cost $261,000.

The "tie-to" and domestic buildings were built in whole or in part by the inmates, and the two trade school buildings in the back, as well as the concrete wall, are now being built by the inmates.

The number of our inmates at the present date in the grades is as follows: First grade 233, second grade 194, and third grade 9.

I hope that this information will be of service to you, and if you need any further information do not fail to command me. It may be, when you get further on in your plans, you might feel that you would like to have a young man from the East come and be your superintendent, and perhaps I might be willing to serve you in that also if it were made sufficiently attractive.

Yours very truly,

FRANK MOORE, Superintendent.

COMMONWEALTH OF KENTUCKY PRISON COMMISSION.
Frankfort.
Members.
HARVEY S. McCUTCHEON, Chairman.
ELI H. BROWN, JR.
FINLEY E. FOGG.
W. F. GRAYOT, Secretary.

FRANKFORT, KY., June 21, 1910.

Hon. TIREY L. FORD, *San Francisco, Cal.*

DEAR SIR: Your letter to Hon. Ben L. Bruner, secretary of state, concerning our state penitentiaries and their management, has just been referred to me for an answer. Before answering your numbered questions it will probably be best for me to give you some general information concerning these institutions in this state. We have a state board of prison commissioners consisting of three members, who are elected by the general assembly for terms of four years. This board has under its direction all of the penal institutions of the state. All of the officials of the penitentiaries are appointed by this board.

At this time the penal institutions consist of the Kentucky penitentiary at Frankfort, Ky., E. E. Mudd, warden; the branch penitentiary at Eddyville, Ky., H. T. Hagerman, warden; and the Kentucky houses of reform, Greendale, Ky., John W. Milliken, superintendent. To the two penitentiaries are sent all offenders of adult age without regard to the crime committed; in other words, they are exactly alike in character, except all women are sent to the Kentucky penitentiary, there being no quarters for them at the branch penitentiary. The branch penitentiary is in the western part of the state, and the prisoners from that part of the state are sent there, while those from the central and eastern part are sent to the Kentucky penitentiary. The juvenile offenders are sent to the houses of reform; called houses, because we have them for both white and black, and male and female. This is the situation at this time, but will not be for much longer, as the last general assembly upon the recommendation of the prison commission took very advanced steps in the way of prison reform. They passed an act substituting the indeterminate sentence for the fixed sentence; they passed a law making many changes in the parole law, making provision for an employment agent to look after the welfare of paroled prisoners, etc. They also passed a law authorizing the board of prison commissioners to convert one of the penitentiaries into a reformatory in which are to be confined prisoners under 30 years of age, and one into a penitentiary in which are to be confined those over 30 years of age and those under who have shown themselves to be habitual criminals or those guilty of heinous crimes. The commissioners were also authorized to institute schools in both the reformatory and penitentiary for the training of the convicts in the common branches of an English education; also in some trade, industry, or handicraft. The board was also authorized to place to the credit of each prisoner such amount of the average per capita earnings of the inmates as they might deem equitable and just, and pay these earnings to him or his family at such times and in such manner as they may deem best. We have the contract system in our prisons, and are paid so much per man per day.

These new laws have not yet been put into effect, but will be as rapidly as is possible, and they will put us abreast of the progressive states which have heretofore adopted such laws.

Your questions 1, 2, 3, and 4 are fully answered in the foregoing. In answer to number 5: We have no local reformatories or reform schools maintained by the local authorities, except in a few of the cities they have houses of correction to which are committed some of the juvenile first offenders. For information concerning this and the juvenile court write Hon. Muir Weissinger, Louisville, Ky.

Question No. 6, in regard to state board or commission, has already been answered.

No. 7. Our courts are not authorized by the law to release persons convicted of crime upon probation.

No. 8. We have had in this state for a number of years a parole law. The board of prison commissioners are authorized to grant paroles upon the good conduct of the prisoners. While the parole law which has heretofore been in effect in this state was rather a crude law it has been a decided success. Only a small per cent of those paroled have been returned to prison for violation of the terms of their parole, and this, too, when the board has been very sure to order the arrest and return to the penitentiary of any paroled prisoner who has been guilty of any infraction of the laws of the state. The board has no doubt that under the new law passed by the last general assembly the parole system will be a splendid success.

No. 9. Yes; we have the Bertillon system of measurements in both the Kentucky penitentiary and the branch penitentiary as a means of identification of criminals who may escape or commit other crimes after having served out their term in the prison. After writing the foregoing sentence I have looked at your question again and find that I have not answered it, as you ask if we have laws authorizing the taking of photographs, Bertillon measurements, etc. No; we have no such state laws, but in addition to the Bertillon system being used in our penitentiaries it is used in the chief cities of the state by the police authorities.

Our houses of reform is not to be considered a prison. It is more of a school than prison. They are situated on a large blue-grass farm, and those inmates who are not known to be very bad are allowed considerable liberty in going about over it. It is a well conducted institution and a credit to the state.

I hope I have answered your letter as fully and intelligently as you desired; but am afraid I have not done so, as I have been interrupted continually since I began writing, and have talked about dozens of other things. However, if there is any further information you may desire I shall be glad to write you fully at any time.

Very truly yours,

W. F. GRAYOT, Secretary.

I am sending you under separate cover copy of our last annual report.

STATE OF VERMONT.
OFFICE OF
SECRETARY OF STATE.
GUY W. BAILEY, Secretary of State. RAWSON C. MYRICK, Deputy.

MONTPELIER, VT., June 28, 1910.

Mr. TIREY L. FORD, *623 Balboa Building, San Francisco, Cal.*

DEAR SIR: I acknowledge receipt of your letter of June 14th, and I am attempting to answer your interrogatories in the order named in your letter, and my answers are as follows:

1. The state penitentiary of our state is located at Windsor, Vt., and is called the state prison. The principal officer in charge is called the superintendent, and his name and address is W. S. Lovell, Windsor.

To the above named institution are committed all persons convicted of felonies as defined by our statutes; adults convicted of misdemeanors are committed to the house of correction, which is located at Rutland, Vt., and the superintendent of the same is David L. Morgan of Rutland.

2. There is no state reformatory institution to which older or adult offenders alone are committed.

3. Our state reform school is called the Vermont industrial school, to which juvenile offenders alone are committed. It is located at Vergennes, Vt., and the name of the superintendent is John N. Barss, of Vergennes.

4. We have no state institution devoted to reformatory purposes to which both adult and juvenile offenders may be committed.

5. There are no local reformatories, or reform schools, or houses of correction maintained by municipal or lesser subdivisions of our state.

6. There are laws in our state permitting the judges of our courts to release upon probation persons convicted of crime, and these laws apply to adults and juveniles alike.

7. We have a state board, within whose jurisdiction fall our penal institutions generally. Said board is termed the board of penal institutions, and the members are as follows: John E. Weeks, Middlebury; Roger W. Hulburd, Hyde Park; Newman K. Chaffee, Rutland.

8. There are no laws authorizing the parole of inmates of penal institutions, aside from executive pardon or parole.

9. We have no laws authorizing the taking of photographs, Bertillon measurements, or other means of identification, but the matter, I think, is covered by prison regulations.

I would say further, in answer to your interrogatories, that sections 5984 to 6017 of the public statutes of Vermont, 1906, cover the questions about which you desire to know, and I am sending you herewith a copy of said sections. Section 5983 of said statutes defines felonies and misdemeanors as follows:

"Offenses which may be punished by death or imprisonment in the state prison are felonies; all other offenses are misdemeanors."

Trusting that I have answered your inquiries, I am,

Yours very truly,

GUY W. BAILEY, Secretary of State.

INDIANA REFORMATORY,

Jeffersonville.

DAVID C. PEYTON, General Superintendent.

JEFFERSONVILLE, IND., July 1, 1910.

Hon. TIREY L. FORD, *President State Board of Prison Directors, San Francisco, Cal*

DEAR SIR: Replying to your letter of the 10th ult. will say that I am mailing you under a separate cover to-day a copy of our 1909 annual report, a copy of our inmates' book of rules, a copy of the rules governing officers of the institution, and a book showing how the grades of prisoners are kept.

I would respectfully refer you to page 13 of the annual report for cost of buildings. We have one large cell house, "C," with about 600 cells; two smaller cell houses, "A" and "B," with 176 cells in "A," and 232 cells in "B," There is the administration building, four stories high, in which are the offices and sleeping quarters; the trades school building, in which are located on the first floor inmates' dining-room and kitchen, tin shop trade school; second floor, carpentering and cabinet making, printing and shoemaking trade schools; third floor, shirt factory trade school; one building with laundry and inmates' bathrooms on the ground floor; clothing repair and Bertillon departments on second floor; a building known as the "yard office," to which inmates report for instructions in caring for the lawn, etc., on the second floor of which is a large room for the use of the institutional band in practicing; three large buildings for use of the foundry trade school, warerooms, grinding rooms; one building the lower floor of which is used for storage, the second floor of which is used for the broom and mop making trade school; a building one half of the lower floor of which is our storeroom, the balance the ice plant and cold storage, the upper floors being used for rooms in which to teach day school; a large two-story building for power plant; a three-story hospital building; a two-story building in which is the assistant superintendent's office, also the punishment cells, and on the second floor of which is the hospital dining-room and kitchen. For further information, as to acreage, etc., see page 13 of the annual report.

Instructors in the trades schools are paid $1,000 each per annum; officers are paid $55 per month for the first six months' service, $60 per month for the second six months' service, and after that $70 per month. Single men are furnished sleeping quarters at the institution. For additional information on this subject see page 12 of the annual report.

Answers to your question No. 5 will also be found in the annual report, on page 11.

The population of the institution to-day is 1,093. We have no way of knowing what percentage of inmates who are discharged from the institution on expiration of the maximum sentence "make good." Of course, we do not keep track of them after leaving the institution on discharge.

Male offenders between the ages of 16 and 30 years are committed to this institution. They may be sent here for any crime with the exception of first degree murder and treason.

There is a state reform school in Indiana to which juvenile offenders alone are committed. It is known as the Indiana boys' school, and is located at Plainfield, Indiana. The superintendent is Hon. E. E. York.

In answer to your question No. 10 will say that there are no such local reformatories, or reform schools, or houses of correction as you mention, outside of workhouses and jails in the cities.

In Indiana there is what is known as the board of state charities, whose business it is to gather statistics of all the penal and charitable institutions of the state. Its secretary is Hon. A. W. Butler, and his address is room 52, State House, Indianapolis.

Indiana has laws permitting the judges of its courts to release upon probation persons convicted of crime under what is termed "suspended sentence." The persons so released are required to report monthly until finally discharged to the institution to which they would have been taken had their sentence not been suspended. They are subject to all the rules and regulations governing inmates paroled from such institution in the regular way. This is a very effective law in many cases, as it saves many a youthful person from the stigma of a prison sentence with actual confinement. This law is applicable to both juveniles and adults.

The reformatory and penal institutions of Indiana each has a board of trustees, which is also the board of parole, which board meets monthly for the purpose of directing and approving the management of the institution, and for the purpose of holding parole court. This board may release prisoners upon parole provided they have complied with the law and the rules of the institution. About 75 per cent of prisoners so released from the Indiana reformatory "make good."

The penal institutions of this state are permitted to have a Bertillon department. The Indiana reformatory has such a department, and also uses the finger print system in identifying prisoners. We furnish indentification cards and photographs of parole violators and escapes to the proper officials all over the country when necessary.

Trusting the foregoing will be satisfactory answers to your questions, and assuring you of my wish to serve you at any time it is possible for me to do so, I am.

Very truly yours,

D. C. PEYTON, General Superintendent.

COLORADO STATE REFORMATORY.

FELIX O'NEILL, Warden.

Commissioners.

CHARLES MUNN. JOS. H. MAUPIN. HELEN L. GRENFELL.

BUENA VISTA, COLO., August 9, 1910.

Mr. TIREY L. FORD, *President State Board of Prison Directors, 623 Balboa Building, San Francisco, Cal.*

DEAR SIR: As per your request, we have mailed you to-day under separate cover the following:

Biennial report of the commissioners and warden for two years ending November 30, 1908, the prisoners' manual, and the rules and regulations for the discipline and government of this institution.

I regret very much that this matter has been delayed. Trusting that this will be satisfactory, I am.

Yours very truly,

FELIX O'NEILL, Warden.

EXHIBIT B.

PROPOSED REFORMATORY REPORT OF TIREY L. FORD, MEMBER STATE BOARD OF PRISON DIRECTORS, UPON OBSERVATIONS MADE AND DATA SECURED DURING TOUR OF INSPECTION OF EASTERN REFORMATORIES.

San Francisco, November 17, 1910.

To the Honorable, the State Board of Prison Directors.

Gentlemen: Under the authority of an act of the legislature approved April 14, 1909, directing the State Board of Prison Directors, among other things, to gather all necessary data to enable it to make a full and comprehensive report to the Governor concerning a reformatory institution, including estimates of the cost of suitable grounds and buildings, and the best methods of management as developed by a research, study and investigation of other penal and reformatory institutions, and pursuant to a resolution of the Board authorizing such of its members as could do so to visit the leading reformatories for adult offenders throughout the eastern portion of the Union, the undersigned member of the Board, accompanied by Mr. George Francis, recently visited five different institutions in as many different states.

The reformatories visited, with their approximate population at the time of the visit, and the year in which each was formally opened as a reformatory, are as follows:

Reformatory.	Population.	Opened.
Elmira, New York	1,500	1876
Mansfield, Ohio	870	1896
Huntingdon, Pennsylvania	750	1889
Pontiac, Illinois	740	1891
Rahway, New Jersey	430	1900

The tour of observation occupied something over a month. I now beg to report to you the information secured during this investigation. No attempt will be made herein to draw independent conclusions, nor to make hypothetical deductions from the observed facts; but this report will be confined to a statement of those facts as they appear to exist, and to the transmission of accumulated data.

It is believed that the group of institutions visited fairly represents the different beginnings and the various conditions to-day of American reformatories. Elmira is the pioneer—was founded without preëxisting pattern, and bears the settled impress of age and of long experience; Huntingdon germinated as a penitentiary, and retains some of the relatively severe features of penitentiary regime; Mansfield, initiated by a demand for additional penitentiary space, evolved during its construction into a reformatory that is spoken of as a model; Pontiac, founded as a place for juvenile offenders, is in the transition period between a reform school and a reformatory; and Rahway, the youngest of those visited, is in a position at the beginning to avail itself of the practical experience of others and the developments of modern science, and it appears to be doing both.

In the arrangement of the following report, it is the aim to segregate each different class of facts or subject of observation, such as historical, location, lands, plant, administration, and so on, under a different heading embracing all the reformatories.

HISTORICAL—ELMIRA.

Elmira is the oldest of the institutions visited, and was the forerunner of all the others in this country; in fact, it was preceded elsewhere only by the so-called "Irish convict system" established by Sir Walter Crofton in 1854–55. The original act of the legislature of New York for the construction of the reformatory, passed in 1866, is said to have arisen mainly from two different causes: First, unsatisfactory prison conditions following the civil war; and second, the new-born agitation by prison reformers, theoretical and practical, urging the necessity of a prison where younger felons arrested for their first serious crime should be treated with a view less to punishment than to their reformation. Prominent among the practical reformers was Z. R. Brockway, a bred prison officer, then at the head of the house of correction at Detroit, Mich.

In 1876, after some $700,000 and about ten years of time had been spent without completing the buildings, the legislature created a new board of managers, who appointed Mr. Brockway superintendent. In May, 1876, the institution was opened by the installation of a few prisoners in the unfinished structures.

Mr. Brockway then drafted the law which created, in general terms at least, the reformatory system as it has ever since existed, not only in New York, but in Pennsylvania, Ohio, Illinois, New Jersey, and the other states that have adopted the idea.

Upon severing his relations with the reformatory, in 1900, he made his final contribution to the published reports of the institution in a statement of the conclusions which had suggested themselves to him during his long period of service. In view of the close identification of Mr. Brockway with the inception of the reformatory movement, because of the fundamental principles discussed, and also because of the suggested difficulties likely to be met with in the administration of the affairs of such an institution, the following excerpts are here quoted from Mr. Brockway's statement:

> The prerequisites and facilities for such reformatories are:
>
> (*a*) Indeterminate sentence committal of prisoners, with its conditional release clause, substantially as at Elmira, but without the maximum limitation feature of the reformatory law.

(*b*) A marking system and accounting with each prisoner, which should include wage-earning necessity, with safe and other expenditure opportunity.

(*c*) Trades school, so comprehensive and complete that each prisoner pupil shall learn and practice the occupation best for him to follow on his release.

(*d*) School of letters, covering instruction from the kindergarten grade to and including the academic, together with a supplemental lecture course.

(*e*) Military organization, training, and drill, embracing every inmate not disqualified.

(*f*) Physical culture and well appointed gymnasium, with baths and massage appliances for scientific use, to renovate the physical man, compensate asymmetries, and augment vital energies.

(*g*) Manual training proper, with tool work, etc., for use to aid recovery from discovered specific physical defects.

(*h*) For more direct appeal to the moral and spiritual consciousness there should be provided a library of carefully selected and wisely distributed books, with class study of literature and authors; art education by use of the stereopticon, with lectures, and when practicable occasional art exhibitions carefully selected and explained; music, both vocal and instrumental, always high class, given and practiced to quicken sensibilities and for refinement; oratory directed to inspire heroism and patriotism; these, together with religious services and ministrations.

The principles of good reformatory administration should include:

(*a*) Custody so secure that prisoners do not occupy their minds with thoughts or plans for escape.

(*b*) Control and management (within the law) by the constituted institutional authority, without interference or influence of outside persons. When the state undertakes the reclamation of criminals, benevolent societies and individuals rendering voluntary assistance should serve under advice; the state is competent and responsible.

(*c*) There must be a resident executive officer in full command, vested with good authority and wide discretionary power.

(*d*) Subordinate officers and employees should be appointed and dismissed by such executive at his pleasure. They should be completely and exclusively under his control, and their functions should be limited to his direction.

(*e*) The entire life of the prisoner should be directed, not left to the prisoner himself; all his waking hours and activities, bodily and mental habits; also, to the utmost possible extent, his emotional exercises. So thorough and rigorous should this be that unconscious cerebration, waking or sleeping, will go on under momentum of mental habits. There should be no time nor opportunity for the prisoner to revert to vicious characteristics.

To such reformatory training the reasonable coöperation of, say 80 per cent of the prisoners can be secured by moral means alone; but for the remainder something more is required, and it is most important that the intractable remainder be recovered. They constitute the dangerous twentieth of the prison population, whose release unreformed is of itself wrong, indeed a crime.

The most intractable of them may be treated in any one of three ways: They may be removed to another prison; they may be secluded and abandoned to themselves within the prison where they are confined; or physical treatment may be used to recover them.

Removal of troublesome prisoners to another prison is not only no remedy, but an evil. Their apparent triumph confirms them in misconduct and incites others remaining to similar misbehavior. This plan might be more satisfactory if all the prisons were under centralized control, each one of a graduated series of the prisons, and if the full indeterminate sentence in place of the present halfway measure, could be the uniform condition of imprisonment.

Equally unsatisfactory is the second plan named, and for quite the same considerations, together with the additional very serious difficulty of the disturbance and evil influence of their disorderly behavior, and the injury to health of body and mind sure to result from continued cellular confinement under the most favorable conditions consonant with any tolerable state of affairs throughout the prison establishment.

Physical disciplinary treatment of really recalcitrant prisoners in a reformatory prison for male adult felons is either repressive or tonical, or both. Repressive measures only must be long continued with the class we are considering. Such measures are, all of them, always objectionably depressing of vitality; they deteriorate mind and morals, degenerate the man, and operate to deprave instead of reform him.

The necessary repression in treatment is had without injury only when it is derived from invigorating measures. To proceed to repress the evil alone, without supplying at the same time a tonic for good, is destructive. The bracing disciplinary measures supply both, repression being incidental, stimulation the main reliance for recovery. Physical treatment for correction by invigoration finds its last resort in the shock of some brief physical pain. The ingenuity of man devising so-called punishments for recalcitrants everywhere has apparently been expended mainly for repressive pains rather than those that stimulate and strengthen. Of the latter there are three common forms, viz., shock by douche, by electricity, and by spanking. The douche is difficult to regulate. Electricity is dangerous. The only harmless, stimulating, physical treatment is, for such as must suffer it, the safest and surest, that which has always been used, rarely abused, the too much condemned measure, spanking. Conferred authority to use this means, shown by occasional applications of it, greatly reduces the number of occasions when the physical treatment is needed.

The actual usefulness to the state of a reformatory greatly depends always on the man who is the executive head, on his appreciation and devotion, his ability and tact, together with the exclusiveness of industry with which he applies himself to administrative duties. To hamper and belittle his position is unwise.

Administrative details can not be well conducted by any remote nonresident authority or agency, and it is impossible to maintain with efficiency the numerous departments and the delicate adjustment of them in a well organized reformatory if there is divided executive control.

Prior to the resignation of Mr. Brockway, Dr. Frank W. Robertson, who had been for five years the medical chief of the pavilion for the insane at Bellevue hospital, New York city, was appointed resident physician. Upon Mr. Brockway's resignation Dr. Robertson was appointed acting general superintendent and remained at the head of the institution for three years, when the services of Colonel Joseph F. Scott, the then superintendent of the Massachusetts state reformatory, were secured.

There is now in course of construction at Napanoch, in eastern New York, an additional reformatory, and Colonel Scott is in control of both institutions, with an assistant in executive charge at each.

The history of this, the first established adult reformatory of the country, if not in the world, is gone into somewhat in detail because of the instructive features it contains. The history of the remaining four institutions visited will be but briefly dealt with, in chronological order.

HUNTINGDON.

In 1878 the legislature of Pennsylvania passed an act for the construction of a penitentiary in the "middle district," to be capable of holding 250 prisoners on the principle of solitary confinement. Three years later, in 1881, a supplemental act was passed directing that a state industrial reformatory be erected on the property acquired for penitentiary purposes, to accommodate at least 500 prisoners in such a way as to admit of their classification and their instruction and employment in useful labor. This reformatory was opened in February, 1889. Mr. T. B. Patton, who was recently elected president of the American Prison Association, has been general superintendent for eighteen years.

MANSFIELD.

Ohio, also, like Pennsylvania, changed its mind about building an additional penitentiary, and substituted a reformatory. A law of 1884 authorized the construction of an intermediate penitentiary, the corner stone of which was laid in November, 1886; but in 1891 an act was passed changing the name and purpose of the institution from a penitentiary to a reformatory. The buildings were formally opened in September, 1896, when 150 prisoners were received from the Ohio penitentiary. Dr. J. A. Leonard, the superintendent, was formerly with the Indian service of the Federal Government, and is the author of a number of monographs on penological subjects, and a recognized authority on reformatory matters.

PONTIAC.

The institution at Pontiac was founded about forty years ago as a reform school for juvenile offenders. By a law passed in 1891, and materially amended in 1893, the institution was expanded into a reformatory for adult first offenders under twenty-five years of age. The institution has not yet been completely transformed into one for adult offenders alone, but about one fourth of the inmates are less than sixteen years old—some of them mere children. Judge R. A. Russell, the present superintendent, who was formerly a judge of the probate court of one of the counties of southern Illinois, has but recently been appointed.

RAHWAY.

By an act of 1895 New Jersey provided for the erection of a state reformatory, which was opened in 1900, and is still practically in process of completion. Dr. Frank Moore, the present superintendent, formerly the head of Pennington seminary, assumed office in March, 1909, and concerning him the commissioners in their last annual report say:

"While he had had much experience as a teacher and school manager, the duties of this office were new to him. That he has succeeded admirably thus far, and accomplished much, is a source of great satisfaction to this board."

LOCATION.

The five reformatories visited are, in several respects, alike in location; they are all on the immediate outskirts of comparatively small cities or towns, with which they are connected by street cars; they are all directly served by railroad transportation, and, with the possible exception of Rahway, they are situated in fertile agricultural districts.

It may not be out of place to mention here one of the most noticeable differences, to a Westerner, between towns or small cities of the East and those of similar size in the West, namely, the far greater prevalence of the church spirit and of church organizations. In fact, the most prominent and expensive buildings of the town are those devoted to religious purposes, and the social life of the community seems to center around church affairs.

Elmira, the largest of the reformatory towns visited, has a population of about 40,000, and lies along the valley of the Chemung River in south-central New York, on four different railways. There are about 400 industrial establishments, with an invested capital of some $8,000,000, and over 5,000 wage earners. Among the more important industries are fire engine works, railway car construction shops, shoe factories, factories of tobacco products, and bridge works. The place was first permanently settled in 1788, and during the civil war was the military rendezvous and recruiting station for New York state. The reformatory is located at the edge of the town on quite an eminence, with a beautiful view of the valley lying below and of the surrounding wooded hills.

Mansfield, the next town in size, has a population of something over 20,000, and is situate in a low rolling-hill region of north-central Ohio, about sixty-miles southwest of Cleveland, on three different railways. It is the center of the rubber manufacturing industry, particularly of automobile tires and tubes. The other manufactures are connected mostly with the rich agricultural country that surrounds it. The community was first settled in 1807. The city owns its water works, and a large sewage and garbage disposal plant that is said to bring visits from sanitary engineers the world over. The reformatory is located on high ground a couple of miles from the city.

Huntingdon is a small town of 7,000, or 8,000 people, situate on the Juniata River, in south-central Pennsylvania, in rather a hilly, heavily wooded region (called mountains by the inhabitants), interspersed with small rich valleys, and is on the Pennsylvania railroad. Among the manufactures are stationery, radiators, stoves, and sewer pipe. It was first settled by white people in 1760. The reformatory stands high above the bank of the river just outside the town.

Pontiac lies on the Vermilion River in the level prairie country of north-central Illinois, about ninety miles southwest of Chicago, on three different railroads. It is in the vicinity of extensive coal fields, although stock raising and agriculture are given its principal attention. There are several factories for the making of candy, hooks and eyes, shoes, and boxes. It was settled in 1825, and now claims a population of about 7,000. The reformatory is almost within the town limits, the grounds about the front of the institution forming a sort of public park, while the farm lands extend to the rear in an opposite direction.

Rahway, New Jersey, is a semi-residential suburb of about 8,000, on the Rahway River twenty miles southwest of New York city. It has some manufactories, chiefly shirt, lace curtain, and music box factories, and felt mills. The reformatory is about three miles from the town, in a flat region of mingled marshes and low, thickly grown forests.

LANDS AND FARMING OPERATIONS.

ELMIRA.

The entire grounds at Elmira cover 300 acres, 280 acres of which constitute the farm, the remaining twenty acres being occupied by institutional buildings and enclosures.

Of the farm, which lies to the rear of the reformatory grounds proper, fifty acres are used for pasture, eight acres are occupied by an apple orchard, and twenty-five acres are woodland. A considerable portion of the remaining land is devoted to raising potatoes, sweet corn, cabbage, tomatoes, beans, turnips, carrots, etc., for the prisoners' use. In an average year the farm yields about 1,000 bushels of potatoes and 1,000 dozens of ears of sweet corn, besides large quantities of the other vegetables named. Some thirty milch cows graze in the pastures, and furnish about 300 quarts of milk daily for the institutional population. Fodder corn raised on the farm supplements the hay crop, so that very little winter feed is purchased for the cattle. The piggery contains from 300 to 500 swine, supported almost entirely from the refuse of the kitchens, and the pork thus produced is all used at the institution. Ten teams are maintained at the farm, and used there or in institutional hauling. The various barns and farm buildings are near an enclosure gate, and easily reached from the institution. There is also a large greenhouse or conservatory, artificially heated, in charge of a citizen gardener, who, with his inmate assistants, also cares for the gardens and extensive lawns about the institution.

No separate figures were available showing the net value of the farm production, but by reason of the intensive methods of cultivation there is a large saving to the state. Those in control of the institution declare that connected with it there should be a farm of at least 1,000 acres.

MANSFIELD.

The Mansfield institution has some 620 acres of land, 600 of which comprise the farm. A strict cost sheet is kept with the farm, on which that department is charged with every expense of maintenance, and credited with the products at prices ten per cent below wholesale prices in the city of Mansfield. The financial statement of farming operations for the year 1909 shows the following general results:

Total production	$20,059 90
Less products fed to stock on farm	3,000 00
Net value of farm products	$17,059 90
Less cost of producing, including superintendence	3,000 000
Net profit of farming operations to the state	$14,059 90

Or a net profit to the state of over $1,170 a month.

The principal items of production were:

	1909.
Cabbage, 5,399 dozens	$1,349 75
Corn, 3,567 bushels	1,961 85
Ensilage, 175 tons	875 00
Hay, 150 tons	1,650 00
Onions, 1,023 bushels	562 65
Parsnips, 1,287 bushels	643 50
Potatoes, 3,706 bushels	1,853 00
Pork, dressed, 16,378 pounds	1,310 24
Tomatoes, 3,308 bushels	992 40
Milk, with butter fat, 12,059 gallons	1,688 26
Milk, without butter fat, 12,059 gallons	844 13
Butter, 3,801 pounds	950 25

The superintendent claims that the institution should have at least 1,000 acres in order to supply its needs for farm products, and he has asked the legislature for $25,000 with which to purchase and improve the additional ground.

At Mansfield, however, the economic value of adequate farming facilities is held to sink into insignificance when compared with the moral gain derived from the employment of large numbers of the young men in connection with farming operations. The conditions under which this employment occurs are made a leading feature of the reformatory methods of the institution, and of which more will be said under an appropriate heading.

HUNTINGDON.

The Huntingdon institution has some 200 acres of land, 10 of which are within the prison enclosure, and about 180 acres of which is the farm. The farm produces all the vegetables used by the inmates, except potatoes, and also all the pork consumed at the institution. Neither butter nor milk is supplied the inmates. A large portion of the farm lies on an island in the Juniata River and is reached by a bridge. The substantial and extensive farm buildings of this institution, several of them of brick, were especially noticeable.

PONTIAC.

In connection with the reformatory at Pontiac the state owns 276 acres of land, 76 of which are devoted to parks and buildings, leaving about 200 acres for cultivation. For a number of years a large acreage has been leased at high rentals, and urgent need is expressed for additional land belonging to the state, which would soon pay for itself in the saving effected by its productive power under inmate cultivation, as well as providing employment for a large number of individuals not adapted to the learning of trades.

RAHWAY.

The institution owns 65 acres, only 30 of which are tillable, and rents about 300 acres for farming purposes. The superintendent desires that the state purchase at least 500 acres of agricultural land for the institution, as much for the purpose of giving employment to the inmates as for the value of the products.

It should be here noted that farm buildings of the East are in the main vastly superior to those of the West, and that the structures upon the institutional farms visited represented as a rule the best types of agricultural architecture.

THE PLANTS, AND THEIR COST.

By the plants of the several institutions is meant their buildings, equipment, and enclosures. In most instances the cost figures given are the gross total cost to the state of the entire plant, including land.

ELMIRA.

Elmira has practically a completed plant, and any measures toward future reformatory extension in New York will be directed to the new plant in course of construction at Napanoch.

The main building at Elmira conforms to three sides of a quadrangle, covers an area of 2½ acres, has a front of 716 feet, a north and south wing of 372 and 432 feet length, respectively, all of a uniform width of 54 feet, and contains 1,440 cells, in seven blocks, each four tiers high, as follows:

	Size of block.	Cells on a tier.	Size of cells.	Total cells.
North cell block	21 x 135	34	7 x 9	136
South cell block	21 x 135	44	5 x 8	176
North extension cell block	21 x 388	126	5 x 8	504
South extension cell block	21 x 234	72	5 x 8	288
North wing cell block	21 x 77	14	8 x 10	56
South wing cell block	21 x 234	26	5 x 8	104
New cell block	21 x 135	44	5 x 8	176
Total				1,400

The central portion of the main building contains on the first floor the offices, cage, waiting room, etc; on the second floor the guard room, steward's office, and library, and on the third floor a chapel and assembly hall 78 by 102 feet.

The outer walls of the main building are entirely of buff pressed brick, it is roofed with slate, and with its long windows extending almost from plinth to eaves, its numerous pointed turrets and towers, and its commanding site, it is indeed an imposing structure.

The cell blocks are all of brick, of different patterns and equipment, according to the period of construction, some of them having wooden balconies hung on castiron brackets.

There are half a dozen or more trades school buildings, all of brick, substantially as follows: A two-story building 60 by 254 feet; first floor, machinist class room, brass smithy, machine woodworker, and cabinetmaker; second floor, upholsterer, printer, bookbinder, and shoemaker. A two-story building, 61 by 254 feet; first floor, carpenter class room; second floor, house painter, sign painter and decorator. A two-story building, 50 by 248 feet; first floor, plumber class room, steam fitter, tinsmith, and sheet metal worker; second floor, drawing class. A two-story building, 50 by 114 feet; first floor, storerooms; second floor, manual training school, and hardwood finisher class room. A one-story building, 76 by 254 feet, containing bricklayer, stone cutter, stone mason, and plasterer class rooms. A one-story building, 100 by 100, the iron and brass molder room. The school of letters building is of brick and contains 26 schoolrooms, averaging from 23 by 27 to 40 by 40 feet.

The domestic building is 65 by 245 feet, four stories high, and has a nine-foot basement underneath. It contains the officers' kitchen, serving room, and dining-room; the first grade inmates' kitchen, and general inmates' kitchen, and dining-rooms; bakery, bread room, storerooms, refrigerating room, and machinery; a number of offices, and on the top floor twenty-three rooms used as officers' quarters.

The gymnasium building is 90 by 120 feet, with a main room 84 feet square, and has a running track four feet wide on a gallery extending around the sides of the room, giving sixteen laps to the mile. There are a dressing room with hot and cold showers, two swimming tanks, a steam room, and an awkward squad drill room. The pride of the institution is the armory, 215 by 300 feet, open to the high, steel-trussed roof, and floored with packed earth. There are also the power house, boiler room, and dynamo room, a soap factory, and other minor structures.

All of the foregoing are within an enclosure, or rather two connecting irregular enclosures, called the east and west yards, measuring together about 720 by 1,056 feet, covering seventeen acres, and surrounded by a twenty-foot wall.

The Elmira plant is the largest of those visited. Its trades school buildings in particular are extensive, capable of handling large numbers of students, and are admirably equipped with a full complement of tools, machinery, and apparatus for the teaching of almost every trade known to craftsmanship. A more intimate account of this feature of the institution will be given, however, under the heading of Technical Training and Industries.

The domestic building was erected in 1906; some of the trades school structures are of comparatively recent date, and there is now in course of construction a new hospital wing that will permit of the isolation of tubercular patients and the application of modern surgical methods.

The physical plant bears the marks of the process of evolution through which it and the reformatory movement in general have passed in theory and in practice during the last third of a century. The plant may not possess the coördination nor the homogeneous appearance of one conceived and built as a whole at one time; some of its architectural and structural features may not conform to later-day sanitary, hygienic, or sociological notions; yet the institution in its present aspect merits the closest study of the reformatory expert because this is the laboratory in which the problem was first attacked by actual experiment and to which we are indebted for much of the fundamental, practical information upon which the theory of so-called modern reformatory treatment is based. The plant at Elmira cost about $2,000,000

In this connection, Colonel Scott states that an institution to accommodate 1,000 men, if the work were done by inmates, could be built in that section of the country for about $1,000,000. The institution at present being built at Napanoch, consisting of 1,000 cells, with wall enclosing twenty-two acres, a power house, trades school buildings, bathhouse and laundry buildings, domestic buildings containing dining-rooms and kitchens, bakeries, etc., making a complete institution, will cost about $1,300,000. Some of the work has been done by contract, but if it were all done by prison labor it could probably be built for $1,000,000.

HUNTINGDON.

At Huntingdon the four cell wings of the main building radiate from a three-story central portion, and connected with this central portion by a corridor over 100 feet long is the domestic building. The cell wings are as follows:

	Size of wing	Tiers high.	Size of cells.	Number of cells.
Cell house A	56′ x 248′	3	8′ 10″ x 8′ x 7′ 3″	144
Cell house B	56′ x 248′	3	9′ x 8′ x 7′	144
Cell house C	57′ x 291′	3	9′ x 6′ 2″ x 7′	228
Cell house D	57′ x 290′	4	8′ x 6′ 8″ x 8′ 6″	288
Total				804

All of the buildings, including the cell blocks, are built of brick manufactured at the institution. The cell block balconies have wooden floors. Each cell is equipped with electric light, running water, and toilet. The utility corridors are underground, beneath the floor, along each side of the cell house.

Opening from the outer end of three of the cell wings are small three-story annexes containing in all eight schoolrooms, and from one wing there opens a three-story annex used as a hospital.

The first floor of the central building is used as a guard room: the library and offices are on the second story; and the third story, which is really two stories in height, is occupied by an auditorium which has a balcony and is equipped with a pipe organ.

The domestic building is two stories high. On the ground floor is an inmates' dining-room, used only by those in the first grade: the officers' dining-room, the kitchen, bakery, cold storage, laundry, barber shop and baths. On the second floor are the printing shop, which, by the way, contains the only linotype seen in any institution, the drill room, the band room, and the tailor shop. Back of the domestic building is the power house and machine shop building, and back of this are the blacksmith shop, the stables, greenhouse, etc.

There are two two-story trades school buildings, each 50 by 165 feet. On the first floor of one building are the brick mason, stone cutter, and plasterer classes, and on the second floor the sloyd, tinsmith, sign writer, and decorator classes. On the ground floor of the other building are the planing mill and carpenter shop, while its second story is occupied by a gymnasium and classes in mechanical drawing.

The institutional enclosure is of brick, is 680 feet square, and covers about ten acres. The superintendent and assistant superintendent have residences at the main entrance.

The trades school equipment is a fairly representative one, though perhaps not so extensive, diverse, nor so complete in proportion to the population as that of Elmira. The buildings appeared to be in an excellent state of preservation, and seem to be adapted by design to the atmosphere of cleanliness, neatness, and orderliness that was distinctly noticeable. The cost of the institution, including land, is given as $1,200,000.

PONTIAC.

The plant at Pontiac, while not so large, appeared on the whole to be more modern in architectural detail and better balanced in the way of reformatory equipment than any other institution visited.

The main structures extend around two sides of the quadrangular institutional inclosure. Midway of one side is a three-story main building, from which there extends the north cell house on one flank and the south cell house on the other. The south cell house contains 500 cells in five tiers, and the north cell house 296 cells in four tiers. The cells are large, are built of brick faced with a smooth coat of concrete, and have open bar gratings across the entire front. Each cell is equipped with lavatory, toilet, ventilators, running water, electric light, and a steel framed bunk, with wire springs, that hinges up against wall. The doors may be unlocked singly, or in groups with levers. There is a patrol balcony around the inside wall of each wing, and along the wall beneath the balcony run the heating pipes.

The central main building between the wings is practically two buildings, one of them two stories in height and entirely within the enclosure, on the first story of which is the kitchen and kindred offices, and on the second floor the officers' dining-room; the other and outer building is three stories high. The first floor is the inmates' dining-room; the second a large dormitory where the juveniles sleep in little, single, white iron beds, and have their junior republic, their bank, their store, their courtroom and their library; and the third floor contains the chapel.

The inmates' kitchen and dining-room is a marvel in equipment and arrangement. They are well lighted, are floored with white tiling, the ceilings are of metal, painted white, and the walls are hard-finished and water-proofed in white. The tables and seats in the dining-room are of hardwood and are kept so scrupulously clean that they appear to be shellacked. The seats are a novel contrivance, consisting of a benchlike back with each individual seat hinged to it so that it may fold up. The walls of the kitchen are tiled to a height of four feet, and the kitchen itself is equipped with aluminum kettles, bakers, warming ovens, and coffee and tea urns all operated by steam, and with mechanical dish washers, potato peelers, meat choppers, and other modern contrivances.

As a portion of the second side of the quadrangle, the hospital building stands apart from other structures. This hospital might serve as a model for any institution in the country. Its operating room, its separate room for the sterilization of instruments and bandages, and its dispensary are equipped with every modern appliance; besides a general ward, it has several smaller rooms where special or contagious cases may be isolated; it has its separate kitchen and dining-room for patients; there is a sun porch for convalescents, and in the building are the offices of the physician and the quarters of the resident nurse—a woman.

The trades schools are in a couple of two-story buildings, each about 60 by 150 feet. On the first floor of one of them is the wood shop, machine shop, and blacksmith shop, and on its second floor is the print shop and book bindery. On the first floor of the other building is the pipe shop, tin shop, and band room, besides storerooms and cold storage, while its second floor is occupied by the carpenter shop and an overall factory. The trades school equipment appears to be ample and up to date, although not quite so diverse as in some other reformatories.

The three-story school building, 75 by 100 feet, stands by itself inside the enclosure, and its several rooms are equipped with the standard apparatus used by the public school system of the state—of which it is, in fact, a part.

Scattered about the interior grounds are numerous smaller buildings, such as power house, foundry, paint shop, shoe and tailor shops, laundry, etc. A sightly wall of molded cement blocks is now being substituted for the board fence around the enclosure. The cost of the buildings and grounds was $960,000.

RAHWAY.

The main building at Rahway consists of two cell wings flaring at an obtuse angle from a huge central dome, with provision at the two opposite angles for additional wings. The architectural construction of the central portion, which was built at great cost, is admitted to have been a grave mistake. The building is about 100 feet in diameter, is six or seven ordinary stories in height, and is open from floor to apex of dome, making the fourth largest structure of its kind on earth. The utilization of this immense open waste space is extremely difficult. If properly constructed it could have accommodated the offices, chapel, and hospital, as well as other demands of the institution.

The cell wings are each 53 by 257 feet; one of them contains 357 cells, 5 by 7 feet, and the other 256 cells, 6 by 9 feet, all four tiers high. The smaller of the cell blocks is of brick, each cell having running water, toilet, and electric light. The larger and newer of the cell blocks is the latest development in steel cell construction, and was made by the Pauly Jail Building Company. Each cell has electric light, running water, and toilet, and utility corridors run back of and between the rows of cells. The cell doors are closed and opened either collectively in groups by levers, or by another lever any particular cell in a row may be locked and unlocked, and by still another lever all of the cells in a row may be locked and unlocked. There are steel bar gratings along the outside of the balconies.

The rear of the dome is connected with a domestic building by a so-called "tie-to" building, three stories high, and containing on its first floor the parole office and "reflection cells"; on the second floor the hospital and doctor's office, and on the top floor an open-air tuberculosis ward.

The domestic building is three stories high, is 60 by 200 feet, and contains in the basement the laundry and bath rooms, on the first floor the dining-room and chapel, on the second floor the schoolrooms, and on the third floor the drill hall. Back of the domestic building is a one-story building devoted to a kitchen, bakery, and so on.

The three-story industrial building is 60 by 120 feet, and contains the Bertillon office, printing shop, carpenter shop, and store room on the first floor; the officers' quarters, shoe shop, tailor shop, and shirt contract shop on the second floor, and an overall contract shop on the third floor. The engine and boiler house lies to the rear of the industrial building.

There are now in course of construction two trades school buildings, one being one story and the other two story, both 45 by 114 feet. There is also being constructed a novel reinforced concrete enclosure wall, twenty-five feet high and but 7½ inches thick.

The entire cost of the plant is $1,500,000. The new Pauly cell block cost $261,000, with an additional $39,000 for its furnishings.

MANSFIELD.

The main portion of the Mansfield plant consists of a central building, with a cell wing flanking it on either side. The older cell block is of brick, and contains 320 cells 6 feet 10 inches by 7 feet 9 inches by 8 feet. The new cell block has 500 steel cells, 5 feet 6 inches by 9 feet by 7 feet 10 inches. This steel block was made at the institution. The superintendent, however, prefers the old brick cells because they have more the appearance of a human habitation. Each steel cell has electric light, toilet, running water, and two ventilators through which the air is changed seven times an hour. There are outer gratings or bars enclosing the balconies of the steel cells, but the superintendent now thinks that these might well have been omitted.

The central building is five stories high, is equipped with an elevator, and is occupied thus: first floor, engine room; second floor, dining-room; third floor, guard room; fourth floor, chapel; fifth floor, hospital. From the guard room access is had to all other portions of the institution through doors in the circumference of a large circular cage, which doors are operated from a station in the center of the cage, the station itself being enclosed by barred gratings. In front of and connecting with the central building, but lying outside the enclosure, is the administration building. Opening from the rear of the central building are two small wings containing the laundry, kitchen, etc. Opening from the east wing are the bath room on first floor and school on the second floor, while from the end of the west wing there is an extension containing quartermaster's department on first floor and printing office on second floor.

Spread in an arc at the back of the enclosure, with a large parade ground intervening between them and the main building, are half a dozen two-story brick structures used as barn, blacksmith shop, engine room, barber school, trades shops, storehouse, and refrigerating plant, and ice factory. This latter is unusually complete. Back of these buildings are a manual training school building and power house. The outer walls of the main building and the massive enclosure wall are of stone.

The value of the land is given at $150,000, the buildings at $1,500,000, and the equipment at $200,000. The steel cells made at the institution resulted in a saving of 40 per cent in cost.

COST OF MAINTENANCE.

The total net cost of maintenance per capita per annum of the several institutions during their last fiscal year was:

Elmira	$160 00
Mansfield	165 00
Pontiac	190 00
Huntingdon	240 00
Rahway	245 00
Average	$200 00

By correspondence, it has been ascertained that the similar cost of four of the more westerly reformatories was approximately:

Minnesota	$250 00
Iowa	260 00
Colorado	275 00
Kansas	315 00
Average	$275 00

ADMINISTRATION AND OFFICERS.

Of the fourteen reformatories in the United States of which full investigation has been made either by personal visit or by correspondence, seven have separate boards of managers and seven are under the jurisdiction and control of the state board of prison directors. In a number of these states all penal institutions, including the juvenile reform schools, are under the jurisdiction of one state board.

The boards each appoint the superintendent, and in one or two cases a few of the other officers, such as physician, chaplain, etc. The boards, where the statute fails to do so, fix the compensation of subordinate officers and employees. Excepting Pontiac, the superintendent appoints all subordinates, either by the advice and consent or subject to the approval of the board. In Illinois, however, the law provides that the board of managers or its members shall not solicit nor request the superintendent to appoint any person to any position in the institution. The number of employees is sometimes determined by the board, and in other cases is entirely in the hands of the superintendent.

The salary of the superintendent ranges from $1,800 per annum at Rahway to $5,500 at Huntingdon; Elmira being $5,000, and Mansfield $2,400; the superintendents receive from the state free living quarters, and also subsistence to a varying extent for themselves and families.

The assistants to the superintendents, under various titles, receive from $1,800 at Mansfield to $3,000 at Elmira. Some of the other annual salaries noted were:

	Elmira.	Huntingdon.	Mansfield.
Physician	$2,000	$1,500	$1,500
Chaplain	1,100	1,500	1,100
Director school of letters	1,500	1,500	1,200
Director trades schools	1,800	1,320	------
Trades instructors	1,000	1,000	1,000
Guards (average)	900	720	840
Physical instructor	1,500	------	------
Military instructor	1,500	------	------

Each institution has a minutely detailed set of rules and regulations for the government of its officers and attachés, which are printed and distributed in the form of an officers' rule book.

At Elmira there is a civil service system, and no employee may be finally discharged except upon the filing of charges, and if he demands it a regular hearing before the board of managers, although the employee may be suspended by the superintendent pending such hearing.

REFORMATORY METHODS.

The reformatory system assumes that men can be reformed, and that it is the duty of society to invoke those influences which shall lead to reformation. It aims at practical results. The reformatory system is neither retributive nor sentimental; it assumes that society must be protected, and it is organized and administered with this end in view. It is one of its cardinal maxims that criminals who are submitted to its regime shall not be released so long as there are well-founded indications that the release of the offender will be dangerous to society. The indeterminate sentence, which is absolutely necessary for the reformatory system, while it furnishes stimulus and inspiration to the prisoner, protects society against the release of those who have not fairly proved their capacity to live as honest, law-abiding citizens, and when the release is made, it is made tentatively under a system of conditional liberation, or parole, so that the criminal may be returned to the reformatory if his conduct be found unsatisfactory.

The discipline which saves a man imposes upon him a greater amount of suffering than that which is purely retaliatory. It is easier for a prisoner to adapt himself to the ordinary rules and regulations of a prison, and perform a certain amount of labor, than to submit to the discipline of institutions which make a constant draft upon his mental, moral, and physical powers; and prisoners who have served time in both classes of institutions almost invariably so testify. The old system said to the prisoner, "Be good;" in merely asked hi mto be submissive.

The new system says "be good," but also "be good for something." It instructs him in the duties of citizenship, puts him through a source of ethical gymnastics, develops his brain and his hand and his heart, appeals to his religious sentiment, and makes clear to him his obligations to society. The reformatory influences are educational rather than retributive. This education is largely manual. Great emphasis is laid upon the value of trades schools. Labor, it is claimed, has a moral, therapeutic value. It may be labor which is productive and through which the prisoner pays, in part at least, the cost of his keeping, or it may be labor which is simply instructive. The largest percentage of crimes for which prisoners are confined are crimes against property, and it is said that nothing tends more to reduce the number of such crimes than the development of a capacity for honest, efficient labor. Training in reading, writing, arithmetic, and the foundation branches of an English education are carried on in day or night schools.

As has been said by an authority on reformatory work, "the system is primarily one the whole efficiency of which depends upon a personal knowledge of each prisoner, and a specific application to him of the reformatory measures suited to his case. To obtain its benefits he must be treated as an individual, not as one of a class to which one method common to all is applied."

The machinery by which these results are sought to be attained differs in each institution. It may be said at once, however, that no elaboration of wheels, cogs, and pinions, however carefully adjusted, can dispense with the engineer, and that success can not be achieved by an adult reformatory without a strong and capable personality to administer it. It is by no means possible to secure the same physical conditions in the different states, and it is therefore the task of the administrator to take methods more or less plastic and adapt them to the new situation.

It is the purpose of the ensuing pages to speak somewhat in detail of the precise methods followed at the several institutions visited.

I.

COMMITMENT.

The copies of the laws received and on file give in detail the manner of commitment in the various states. At Huntingdon, Pontiac, and Rahway the age limits are from 16 to 25 years, the latter having recently reduced the age from thirty, although the superintendent states that the sentiment is now in favor of a return to 30 years as the maximum age. At Elmira and Mansfield the maximum age is 30. In Ohio the commitment to the reformatory of all those convicted of felony between 16 and 21 is mandatory, while with those over 21 the court may use some discretion. In the other states the institutions are presumed to be for first offenders only, although recidivists not known to be such by the courts are actually committed, and in Pennsylvania those who have served any number of jail sentences are not considered by the judges to come within the law as first offenders. In some instances those convicted of the more heinous crimes, as murder, treason, etc., are not admitted to the reformatories.

The sentence is universally indeterminate to the extent that the prisoner may be retained for the full term of the maximum sentence imposed by statute for the offense for which he was committed. The indeterminate sentence in its fullest sense, where no maximum whatever is fixed, does not appear to have been adopted as yet by any of the states visited or heard from through correspondence. The officials of the several institutions complain of much trouble had because of the maximum sentence, and particularly of the baneful effect upon the institution of those hardened in crime, with light maximum sentences, who make no effort to reach parole and who become the center of increasing evil until their release under the law. Some of the states provide for the transfer upon proper court proceedings of incorrigibles to the penitentiary, and the extent to which this is practiced varies widely in different institutions. Elmira does not avail itself of the provision unless the prisoner is a recidivist. In the organic act of the Pontiac institution an attempt was made to provide for such a transfer by the board of managers without legal proceedings, but this was held by the courts to amount to the imposition of an additional punishment and to be obnoxious to the constitutional safeguards of personal liberty, inasmuch as it purported to confer powers essentially judicial upon other than a judicial body. Transfer of the insane to state hospitals is accomplished through the courts.

In New York the reformatory sends its officers to the places of commitment to receive the prisoners and bring them to the institution.

II.

PRELIMINARY EXAMINATION AND TREATMENT.

The examination of the prisoner upon his entrance to the institution is directed to the formation of an accurate estimate of his physical condition, his mental development, and his moral status at the moment. The thoroughness of this examination varies greatly at the different reformatories, and as it is presumed to be the basis of his after treatment at the institution the matter will be here written of rather fully.

(*a*) PHYSICAL.

In the physical examination at some institutions the entrant's weight is taken, and measurements are made of his height, chest depth, abdomen depth; breadth of shoulders, chest, waist, and hips; and girth of head, neck, the chest natural and inflated, waist, hips, thighs, and calves. His ability to chin a bar, compress a spring by gripping, and to lift weights, and his lung capacity are all tested. These measurements are then compared with anthropometrical standards and such exercises and treatment in the gymnasium under the physical culture director are prescribed as will be likely to remedy any physical defects that may preclude him from receiving the full benefit of reformatory influences. A record of this initial data is made, and at stated intervals the measurements are repeated and recorded, so that a complete history of the inmate's physical condition is always available. In one institution the inmates are all weighed once a week, and if a serious loss is noted the inmate is examined by the physician even though his general health may apparently be good.

(*b*) MEDICAL.

The medical examination includes the condition of the heart and lungs, the appearance as to nourishment and complexion, a note of any deformities, a list of the diseases had in the past and the indications of any at the present because of the death of the father and mother, if dead, and a note of any hereditary diseases possessed by either of them, and finally a statement of the habits of the entrant as to tobacco, liquor, drugs, and immoral practices.

(*c*) MENTAL.

The relative mental development of the entrant is more difficult to define by fixed standards than is his physical condition, but its determination is declared to be none the less important. The most thorough method appears to be one based upon the "measuring scale of intelligence" devised in Europe by Binet and Simon, and heretofore applied in this country principally to juveniles. A thorough understanding of this method pre-supposes that the operator has a fair acquaintance with physiological and genetic psychology.

The method consists of asking the subject certain questions, and causing him to perform certain simple tasks. There are a number of different sets of such queries and tasks, each one adapted to a child of a different age. By extensive and prolonged laboratory tests with thousands of normal children possessed of the school education usual for their age, it has been found that the tests devised for those of one age are not likely to be met by a subject of the age immediately preceding.

Perhaps the easiest way of explaining the practical operation of the method will be to describe a couple of tests that were made in our presence.

The resident physician said to us that although the minimum age limit of commitment was 16, he would show us a boy but 6 years old.

The youth, actually 19 years of age, was tall, appeared to be well developed and nourished and was not apparently of an unusually low degree of intelligence, although his movements were rather slow. He passed through the tests of the third, fourth, and fifth years successfully, though somewhat hesitatingly. He could not repeat a simple sentence of sixteen words, which can be done by half of the five-year-old normal children and by all of them at 6. When shown the outline drawing of the heads of six women in three pairs, one of each pair pretty and the other ugly or deformed, and asked to indicate the prettier, he chose two of the uglier. All normal children of 6 choose correctly. He failed in the execution of three simultaneous commissions, viz.: "Do you see this key? Put it on the chair; then shut the door; after that bring me the box that is on the chair." He did not close the door. At 4 years almost no normal children can do this, at five about half, at 6 nearly all. Among other tests that he could not meet, for the several early ages, was the copying of the outline drawing of a diamond or rhombus that all children at 7 can do; his figure was an ellipse. A board was handed him in which holes had been sawn of different shapes, such as a star, a heart, a square, and so on, and with it a block to fit each hole. He tried at first to fit almost any block to any hole, and only after repeated trials did he complete the task. Unfinished pictures of the human face or figure from which some feature was missing, such as the eyes, mouth, nose, arms, etc., were shown him, and when asked to name the missing part he declared in every instance that it was the neck.

After reaching the test age to which the youth made no further response, a simple computation from his markings upon the tests given showed that from a scientific standpoint he was mentally but six years of age; the character of his responses showed a mental functional deficiency known as a lack of coördination, incurable at a reformatory, and he should never have been committed to such an institution.

The other case examined was that of a young man about twenty-one, of fair physical development. He passed most of the tests for the earlier ages, but could not, for instance, repeat five numbers named to him, *e. g.*, 4-7-3-9-5, which three quarters of the seven-year-old children can do. He copied a three-word sentence with considerable difficulty. The "reading for six memories" test of the nine-year age balked him. This consists in the subject reading a short account of an event, for example:

THREE HOUSES ON FIRE.

"NEW YORK, September 5.

A big fire in Hastings last night destroyed three large houses in the center of the village. Seventeen families are without shelter. The loss exceeds $30.000. While rescuing a child in his cradle, a barber's boy had his hands burned"—

and then being asked what he had read. Some of the memories in this reading would be, (1) three, (2) houses, (3) on fire, (4) New York, (5) September 5th, (6) a big fire, (7) destroyed, and so on. The greatest number is about nineteen. At eight years of age hardly any child has six "memories," at nine almost all get six. Then, there are five degrees of reading: spelling out, reading by syllables, hesitating, fluent reading, and expressive reading, all of which are taken into consideration. He was unable to use three words in one sentence, as *Rahway, money, river*, and give it sense, within one minute. His answers to such "questions of comprehension" as "What ought one to do when one has been struck by another who did not do it on purpose?" or "When one has broken something belonging to another?" or "When asked his opinion about some one of whom he knows only a little," were vague and unsatisfactory. Twenty seconds is allowed for response. At eleven most of these questions are answered correctly; at ten half the children are successful; below ten a response is seldom received within the allotted time. On the other hand the subject's criticism of sentences containing an absurdity, or nonsense, as, for instance, "I have three brothers, Paul. Ernest and myself," or "The police found yesterday the body of a young girl cut into eighteen pieces; they believe that she killed herself," etc., were apt and prompt. In short, the series of tests when computed showed him to be mentally about twelve years old. By questioning him, it was ascertained that his father was an iron molder irregularly employed; that his mother was partially alcoholic; that he had lived in a three-room house, lighted by oil lamps, on the outskirts of a small city; that he had attended school but three years, between fourteen and seventeen years of age; that he had played truant "wid de gang" in his younger years when his parents thought him in school, and that when in need of spending money he had robbed vacant houses of their plumbing and hardware and sold it to junk dealers. The diagnosis of his case was: neglected education in youth, lack of parental discipline, and inability to concentrate his thoughts for want of the prior mental training usual to young men of his age. His was the ideal material, mentally, for reformatory work.

In addition to the disclosure of the moral status of the entrant by his physical, medical, and mental examination, a series of questions designed to bring out his ethical development and his past environment are asked of him. These appertain among other things to the habit, health, and the financial, social and moral status of his parents, and to their domestic relations, to insane or epileptic relatives, to the prisoner's conjugal condition if he be married, and to the circumstances of his crime. As indicating the broad scope of this general examination, and its tendency to bring out the latent characteristics of the prisoner, the following specimen questions are quoted:

1. At what age did you leave school?
2. Did you attend city or country schools?

3. Name the studies.
4. Name the reading which you prefer.
5. Why did you leave school?
6. How much education had your father?
7. Your mother?
8. Are you a member of a church?
9. Give the reason.
10. What denomination?
11. Do you attend church?
12. Does your father attend church?
13. What denomination?
14. Does your mother attend church?
15. What denomination?
16. What Sunday school did you attend?
17. How long?
18. At what age did you begin work?
19. What was the wage rate per week?
20. If you were not at work when arrested, give the reason.
21. How did you spend your wages?
22. Have you saved anything?
23. How much?
24. What was your reason for saving?
25. What is (or was) the pecuniary condition of your parents?
26. Do (or did) they own the house they live in?
27. Name your bad habits.
28. Name your good habits.
29. How were the bad ones formed?
30. How were the good ones formed?
31. Have you been immoral?
32. If so, give the cause.
33. Name some temptations incident to your life.
34. What are the good habits of your father?
35. Father's occupation?
36. Of your associates?
37. The bad habits of your father?
38. Of your associates?
39. Name the diseases you have had.
40. Any accidents?
41. At what age did you leave home?
42. Why?
43. Do you believe in signs or dreams?
44. Name the ones in which you believe.
45. Name some religious beliefs.
46. Name those in which others believe.
47. What do you most fear?
48. Why?
49. How many in your family?
50. Who was with you in this crime?
51. Was he convicted?
52. Were you busy or idle just preceding the crime?
53. Tell your story of the crime.
54. Are you guilty of the crime?
55. Did you personally know the complainant in the case?
56. Had you ever had any trouble with him?
57. Was the trial in your case fair or otherwise?
58. Did you gamble?
59. How?
60. Who was your last employer?
61. How long did you work for him?
62. Why did you leave him?

The statement is taken by an officer who endeavors to inspire the prisoner's confidence; copies of it are sent to the prisoner's attorney, the prosecuting attorney, the trial judge, and the parole officers of the institution who, on their continuous rounds of the state are constantly making inquiries based on the information given.

The result is that the prisoner from whatever point of analysis soon becomes a pretty definitely known quantity, and his future individual treatment is largely a matter of good judgment and adequate equipment.

Of the last hundred prisoners received at one institution 35 per cent were mentally defective to a greater or less degree, and according to information obtained the parents of 15 per cent of them were mentally defective. Twenty per cent of those received at one reformatory were alcoholic, and 80 per cent of their parents were alcoholic.

In most of the institutions the entrant after being examined is taken before the superintendent, chaplain, or disciplinary officer, who explains to him the nature and purposes of the institution and what it expects of him as an inmate, and a friendly interest is evinced in his welfare. In one instance, authority is secured to open his mail and the name of the person with whom he desires to correspond is taken, and he is permitted to write to no one else. Those in a very weak or diseased condition are usually placed at first in a so-called dispensary cell for treatment.

At Elmira, and also some other institutions, the first occupation of the inmate is cleaning and scrubbing cells, corridors, walks, etc., and no one escapes these ''stunts.''

An awkward squad is maintained from which the newcomer graduates into the regular military battalion of the institution. At several reformatories, notably Elmira, the military drill is strongly featured, because of its disciplinary tuition and the physical training it gives. At Huntingdon competitive drills are held, judged by national guard officers, and colored guidons are ceremoniously bestowed upon the winning companies. Calisthenic exercises, in regimental formation to the time of music by the institutional band, is a common practice, and is highly recommended.

In most institutions there is no segregation of the prisoners as to housing the upper grades, while other places endeavor to give the more desirable cells to the higher grades. The lowest, or punishment grade, is universally housed by itself.

In some instances a card of a different color for each different grade appears upon the cell door, giving the name, number, date of receipt, and crime of the occupant. One institution has an additional cell-house card stating the special occasions upon which the cell shall be unlocked, as, for Jewish services, for seven o'clock school, for band practice, etc., and also a label denoting that the occupant may burn a late light.

III.

GRADING OF INMATES.

In the grading of inmates all of the institutions have established at least three grades; one of them has divided the first grade into two subgrades, *i. e.,* a first-grade-perfect and a first-grade-ordinary; another has a lower division of the third or demotion grade in which it places its incorrigibles.

The second, or intermediate, grade is the one in which entrants are first placed. Upon making a satisfactory record in that grade for a specified time, usually at least six months, the inmate is promoted to the first grade. After a satisfactory record in the first grade for a given period, commonly about six months also, the inmate is eligible to apply for a parole, but is not necessarily entitled to receive one. The officials of the reformatories agree that most of the prisoners are paroled, or apply for a parole under the rules, before the institution has had an opportunity to confer its full benefit.

The third grade is a demotion grade to which inmates are reduced for violation of the rules of the institution, or unsatisfactory work in the upper grades, or for failure to earn promotion to the first grade within a specified time, usually a year. In most cases the time required to be spent in this lowest grade is thirty days or some multiple thereof, which is extended by continuous misbehavior, and this time is lost in any computation of eligibility to apply for parole, and is weighed against the applicant when his application is considered. Demotion is sometimes direct to this grade from both first and second grades and promotion therefrom is to second grade only, while in other institutions the first grade inmate is demoted to the second grade only, except for the most serious offenses.

In some reformatories there is a so-called bankruptcy court, wherein third-grade inmates hopelessly in arrears and evincing an earnest disposition to make a new start in reformatory life may file their application, and if the court—usually the superintendent, the disciplinarian, and the chaplain—shall unanimously decide that the inmate is sincere and worthy of the chance, his past is stricken from the record and he starts again with the status of an entrant.

An inmate is not arbitrarily penalized or punished, but has a hearing before the institutional court in which either the superintendent or the disciplinarian sits as a judge. The report of an offense or a charge is filed in writing on a printed form, and the offender is notified of the charge and given an opportunity to plead thereto or to make any explanation he may have. The court then disposes of the matter by levying a penalty in accordance with a fixed schedule, or by a reprimand, or by dismissing the charge.

The offenses are variously classified by the several institutions. Huntingdon, for instance, has three classes, *i. e.*, neglect, dereliction, and offense. Neglect, such as bed not properly made, clothing not hung on hooks, coat not buttoned, not rising when talking to teacher in school, etc., are reported on pink slips, six of which are necessary to be well founded in order to work a forfeiture of thirty days. Dereliction, such as absence from school or chapel, disorderly conduct in cell or in school, purposely breaking step when marching, wasting food, etc., are reported on yellow slips, and three of these work a forfeiture of thirty days. Offenses, such as attempting to escape, assaulting an officer, falsehood, etc., are reported on blue slips, and one of these means a forfeiture of thirty days or more. In some institutions the inmate has a hearing on the day following the offense; in others the hearings are once a month, just before changes in grade.

The different grades have distinction in uniforms, in writing and visiting privileges, and frequently in the manner of serving and the variety of their food.

At Rahway the regular uniform is of blue wool in winter, and khaki in summer. The first grade have a yellow cuff, the first grade perfect have a red stripe across the yellow cuff, the second-grade uniform is plain, and the third grade dress is a red suit. No hats are worn in summer.

At Elmira the regular uniform is black coat and gray trousers in winter, and khaki in summer. The difference between first and second grades is denoted by small metal numbers on the collar. If a man passes through the second grade with a perfect record he is entitled to wear a small maltese cross in the first grade as a badge of honor, which if once lost can never be regained. The third grade uniform is also a red suit here.

At Mansfield the regular uniform is blue wool in winter, and khaki in summer. The second grade wear a figure "2" on the sleeve of the coat. Those with a perfect record of 180 consecutive days wear as a chevron a white lozenge; those with 360 days have a white star as a chevron. The third grade "A" wear a gray suit, and those in the third grade "B" a brown one.

At Huntingdon the first grade uniform is plain gray; the second grade is of narrow horizontal gray and black stripes; the third of similar red and gray stripes, and the fourth grade wear red. There is also an honor mark here, called the "Keystone badge," for those making six months' continuous perfect conduct prior to promotion.

There are also in use at most institutions various chevrons and cap devices denoting the various classes of trusties and monitors, such as inside and outside trusties, inmate instructors, etc.

The food at Elmira is uniform in quality, but varies in quantity and manner of service as between the grades. Those in the first grade eat in a separate dining-room where white cloths are upon the table, conversation is allowed at meals, and some effort is made to inculcate the elements of table etiquette. There is a first-grade credit dining-room where those having more than $5.00 in marks to their credit are provided with a better variety of food and charged a little additional. The second grade eats in silence under less attractive surroundings.

At Huntingdon the first grade alone eats in a dining-room, the remainder in their cells.

At Rahway, Mansfield, and Pontiac all inmates use a common dining-room and have similar fare. Two sample daily bills of fare are here inserted to illustrate the class and variety of food supplied to inmates at certain institutions.

MANSFIELD.

TUESDAY.

Breakfast.

Bread Butter Syrup
Oatmeal with sugar and milk
Apple sauce Coffee with milk

Dinner.

Boiled corn beef and cabbage
Boiled potatoes Stewed tomatoes
Pickles Bread Water

Supper.

Sliced bologna Catsup Fried potatoes
Cold slaw Bread Butter Syrup
Tea and milk

PONTIAC.

THURSDAY.

Breakfast

Baked hash Coffee Bread Butter

Dinner.

Roast beef Mashed potatoes Green corn
Dill pickles Bread Turnips Butter

Supper.

Fried potatoes Bread Milk Butter

At several reformatories much importance is placed upon the beneficial influence of plenty of substantial food, and the inmate is not limited as to the amount consumed. By canning, pickling, curing, and preserving, and storing in cold storage or in root cellars the large quantities of vegetable and meat products of the farm, this is accomplished at an amazingly small expense.

The privilege of writing and of receiving visitors varies with the grades and with the different reformatories. The rule is universal that letters and visits can be received only from members of the immediate family; usually limited to father, mother, brothers, and sisters; while chums, cousins, etc., are specifically excluded. In some institutions one letter may be written, one may be received, and one visitor received once each week by first grade inmates, while in other reformatories the periods are as much as three months apart. The second grade inmates have these privileges less often than the first grade, and the third grade usually not at all. Notices of promotion or demotion are sent by some institutions to the regular visitors or correspondents of inmates, with copies of the rules governing them. One institution encloses with each letter written by an inmate a sheet of paper and an envelope for the reply, thus regulating the incoming correspondence. At Elmira the inmate about to be paroled may write any number of letters for employment upon blank forms provided for the purpose.

The duration of the visits to inmates is kept within reasonable limits, but varies with the character of the visit. At Mansfield a prisoner's family frequently visits with him all day if they have come from a long distance, and they sometimes bring a basket of lunch from home in which the prisoner joins them. The superintendent claims that such visits sometimes do a world of good in bracing a fellow up and making him anxious to earn his parole and again be among his own people.

The forms of punishment, as far as ascertainable, seem to consist of degradation to the third grade, and in flagrant cases of confinement in solitary cells on bread and water with a board and a blanket for a bed. Some of the institutions do not darken these cells, but keep them absolutely silent, claiming that these conditions are conducive to meditation and reflection. Corporal punishment is not admitted to exist. Sometimes a slight offense is punished merely by loss of dinner. Other superintendents do not deprive an inmate of his regular food under any circumstances. Elmira had but eleven men in punishment in 1909.

The numbers of prison population in the several grades at Rahway were:

First grade	229
Second grade	192
Third grade	9
Total	430

At Huntingdon:

First grade	438
Second grade	296
Third grade	14
Fourth grade	2
Total	750

At most of the institutions the inmate as a matter of right may address sealed communications to the superintendent and to the president of the board, and in some of them he has an interview with the superintendent once a month; in others an interview with the chairman of the board, provided that he must first see the disciplinarian and then the superintendent on the matter at issue.

The systems of marking the standing of inmates in their studies, manual training, industry, and demeanor are more or less complicated, but are of three general types, viz: the monetary system, as at Elmira; the system of time credits, as at Rahway, and the system of Nines, as at Huntingdon. These different systems are explained by the following excerpts from the rules of the institutions:

ELMIRA; MONETARY SYSTEM.

1. There are three grades: First, second, and third, the first being the highest. An inmate upon his commitment to the reformatory is admitted to the second grade.

2. Each inmate will be allowed compensation as follows: First grade inmates will be allowed $.55 per day; second grade inmates will be allowed $.45 per day.

No compensation will be allowed for Sundays or holidays unless upon special work. Inmates in third grade pay no board and receive no wages. Inmates in sick gallery and hospital pay no board and receive no wages. The following military compensation will be allowed in addition to the regular wages: First, second, and third lieutenants and sergeant-majors receive $.55 per week. First, second, third, fourth, and fifth sergeants receive $.45 per week.

3. Inmates who pay no board are charged the following rates: First grade men, $.40 per day; credit first grade men, $.42 per day; second grade men, $.32 per day.

Each inmate will be charged a certain fixed rate for each article of clothing purchased except that the first outfit will be furnished free of cost. Each inmate will be charged for medical attendance at the rate of $.05 per visit.

4. If an inmate fails to pass in his examination in the trades school or the school of letters deductions will be made from his earnings, as follows: No deductions will be made for standings of 75 per cent or over, on examinations. A deduction of $1.00 will be made for a standing of between 75 per cent and 50 per cent. A deduction of $2.00 will be made for a standing of between 50 per cent and 25 per cent. A deduction of $3.00 will be made for a standing under 25 per cent. If an inmate fails to obey the rules and receives reports for such failures, deductions will be made from his earnings, for second class reports $.25, for first class reports $1.00 and upward.

RAHWAY; TIME SYSTEM.

On his admission each inmate will enter the second or indeterminate grade. An account will at once be opened with him on his individual record in which he will be charged 450 days, or fifteen months of 30 days each; 90 of these days will form a special account and will be deducted at the end of 360 perfect days, as follows:

Thirty days for having performed his full assignment of work every day; thirty days for having displayed marked improvement and skill in his work; thirty days for receiving a general average of 90 per cent in scholarship. By hard work, from the date of entrance to receive this reward of merit of having these 90 days deducted from the original charge of 450 days, the inmate of perfect conduct can secure his liberty in the minimum time of 360 days.

PROMOTION.

When 180 perfect days are found to be to the credit of an inmate, he will be promoted to the first grade. Inmates who make 180 perfect days without losing any from the time of entrance will be promoted to the first grade perfect.

HUNTINGDON; SYSTEM OF NINES.

The plan decided upon by the managers when the institution was opened and which is still adhered to, is to allow each inmate who complies with the rules a credit of nine marks each month—three for conduct, three for labor, and three for school; and each inmate who may make these nine marks is credited with what is termed a "nine," which really means one month's good time.

An inmate may fail in his conduct, and still receive his three marks for performance of labor and a like number for his school examination, or may fail in either one of the latter or both, and yet receive his conduct marks.

IV.

TECHNICAL TRAINING AND INDUSTRIAL OCCUPATIONS.

One of the leading features upon which reliance is had for the beneficial results of reformatory treatment, is the teaching of a trade. This is done in manual training classes, in shops where the needs of the institution are supplied, and in factories whose production is consumed elsewhere.

Elmira has the most extensive and best equipped trades schools, although nothing is made for use outside of the institution. Some thirty different trades are taught. While a certain small latitude is allowed the prisoner in the choice of a trade, he is compelled to take up the one to which he seems best adapted. The demands of the community whence he came or is likely to go are also carefully considered. But little of the product of the labor of the trades school workers is put to any use. but it is torn down or pulled to pieces and the material used again as far as possible. The actual cost of trades school material used in 1909 was about $3,600. Half a day is spent in the shops, and the other half in military drill, gymnasium, and the school of letters. The average inmates have not the time to complete a full course, but they usually become sufficiently practiced to procure work at the trade taught upon their release on parole. During 1909 some 2,146 different inmates received instruction, but only 27 graduated, viz: Eight barbers, 12 bookbinders, 3 carpenters, and 4 stenographers. The prevailing trades are, barbering, bricklaying, carpentry, molding, plumbing, and tailoring, while horseshoeing, iron forging, house painting, sign painting, printing, steam fitting, and tinsmithing occupy quite a number.

At Elmira the minimum time in which a trade may be learned is designated as a certain number of hours; this total number of hours is divided into what may be termed ''examination periods.'' When the pupil works at his trade for the specified number of hours allotted to the period in which he may be employed he is examined by the citizen instructor in regard to the quality of his work, which, if it merits a marking of 75 per cent or higher, entitles him to be advanced to the next higher period, or outline, as it is termed. When he has successively passed all the outlines prescribed in the schedule of the trade at which he is employed he graduates from the class, and thereafter until his release from the institution may be employed at making repairs, constructing new work, or, if necessary, assigned as an assistant instructor in the class from which he has graduated.

The beginning of the schedule of outlines which it is required to pass in order to graduate from the trade of bricklaying is given as an illustration. The total number of hours during which a pupil must work at this trade before he can graduate is seven hundred and twelve, divided into thirty-five outlines varying in length from eight to thirty hours, respectively.

Outline No. 1.

Length of Outline -- 8 hours

Character of work—Practice in use of trowel and mortar board, properly placing mortar on board, then spreading it upon the wall.

Outline No. 2.

Length of Outline -- 14 hours

Character of work—Practice in laying 8-inch wall, without the use of plumb and line, spreading mortar on three bricks at a time, and striking joints.

Outline No. 3.

Length of Outline -- 14 hours

Character of work—Same as No. 2.

Outline No. 4.

Length of Outline -- 24 hours

Character of work—Building square piers and chimneys, striking joints.

Outline No. 5.

Length of Outline -- 24 hours

Character of work—Same as No. 4.

Outline No. 6.

Length of Outline -- 30 hours

Character of work—Building an 8-inch wall, using plumb and line; also a chimney fireplace; learning to turn corners and fall pilasters.

Outline No. 7.

Length of Outline -- 30 hours

Character of work—Same as No. 6.

Outline No. 8.

Length of Outline -- 30 hours

Character of work—Building 12-inch wall, using plumb and line; also fireplace flues; practice in turning corners and building pilasters.

Outline No. 30. Final Outline.

Character of work—Building a test piece as prescribed by the instructor.

All pupils before graduation must be able to lay brick plumb and neatly, and at the rate of at least 600 in eight hours. A lesson in mixing mortar is given once each month during the course.

At Pontiac, which also has well-equipped general shops, the printing, binding, and ruling is done for all the state institutions. Here the inmate is encouraged to take up any trade for which he shows an aptitude or liking.

At Huntingdon there are also good shops, some of them excellently equipped, although the variety of trades is somewhat limited. The average trades school pupil here is able to command $2.50 to $3.00 per day upon his release. In the printing office linotype operating is taught. Under the existing laws of Pennsylvania, nothing can be produced for outside consumption whereby power driven machinery is used in its making; foot power and hand power alone are permitted, and the percentage of prisoners that may be employed in the manufacture of any one article is limited. Nothing therefore is manufactured for sale, but the institution does all of its own building and makes everything to cover its own needs. There is held at the end of each school year a very interesting exhibit of industrial school products.

Mansfield and Rahway are just emerging from the contract shop system into the state use system. Mansfield supplies the state institutions of Ohio with shoes, boots, clothing, furniture, and school desks, and has shops and factories for the manufacture of these articles. The goods are sold to other institutions at the actual cost of manufacture, which includes material, light, heat, power, superintendence, and maintenance of inmates employed.. One half day is devoted to work, and one half day to school. The institution is desirous of extending its trades school plant both in size and variety.

Rahway has not as yet developed its trades schools to much extent, but is in course of establishing them. It has heretofore made shirts and overalls in contract shops, but this is being dispensed with. The "state use" system is being planned for. There is no state law against the sale of its products in the open market. The shoes and clothing of the inmates are manufactured at the institution. The winter parole suit of an inmate, made to measure, of first class material, costs $4.00, and an overcoat of like grade $3.85.

All of the institutions have printing plants, power houses and dynamo rooms, where inmates are given an opportunity to learn as much as possible.

V.

SCHOOLS OF LETTERS, ETC.

At Huntingdon and Pontiac the schools are taught by professional citizen teachers. In the other institutions the schools are directed by a citizen teacher, who is assisted by the chaplain and by inmate teachers or instructors. The advantages and better results of the first method are apparent upon a casual investigation, and those institutions where the inmate teacher system prevails are dissatisfied with it and disparage its use.

With the exceptions of Huntingdon and Elmira there is a half day of work and a half day of school. At Huntingdon the schools are from six to eight in the evening, with three additional classes in the afternoon for illiterates. The work being done in the schools at Huntingdon, especially with illiterate foreigners, is particularly praiseworthy. Adult entrants who can not speak English, and can neither read nor write any language, are frequently able to take up fourth grade work in six months. The efforts of many of them to learn is, in fact, touching. At Elmira the half day not devoted to work is partly taken up with gymnasium and drill.

A glance at the extent of instruction at Elmira will illustrate that attempted at all the institutions. Arithmetic is taught in eleven grades, from the elementary reading and writing of numbers, through proportion, common and decimal fractions, measurements, the principles of discount, interest, insurance, promissory notes, and so on, to a short course on accounts. Language is in nine grades, from the alphabet and the naming of things from pictures and objects, pronunciation, etc., to the composition of letters, punctuation, and a study of extracts of some of the best known authors. One of the most noticeable educational deficiencies is said to be a lack of expression, written or verbal. In addition to the foregoing some of the schools have short courses in history, nature study, ethics, citizenship, and litertaure.

The schools at Pontiac are a component part of the public school system, and on graduating therefrom an inmate on his release is entitled to enter a state high school. Text-books are kept by students in their cells, as well as at school, to save wear and tear, and so that none may plead that he "forgot to take his book home."

Debating clubs and literary lyceums are maintained, where all sorts of questions are discussed under the rules ordinarily governing such bodies. One institutional debating club had just settled the question of woman suffrage, another had concluded a debate on a labor problem of national importance. At one reformatory the inmates were having a hot contest in voting for their favorite for president of the nation—Jack Johnson had the solid colored vote.

Each institution has a library, ranging from 4,000 to 14,000 volumes, books from which are circulated among the inmates under varying regulations. At Pontiac the library contains 14,000 volumes of carefully selected standard works, noticeably free from fiction, and its average circulation is about 4,000 volumes per month.

The inmates are permitted to subscribe for magazines of an improving nature at their own expense, and especially those relating to their trade.

An institutional newspaper, usually a weekly, is published at each institution. One of these, for instance, had a brief resume of current news events, an essay by Elbert Hubbard on "The law of loyalty," encouraging letters to the superintendent from those on parole, items with regard to reformatory happenings, the daily count, a list by numbers of those paroled, promoted and demoted, and some humorous paragraphs under the heading "Lest we become blue." There are also occasional lectures in the assembly hall by noted educators and prominent persons, sometimes illustrated by lantern slides.

At Rahway 25 per cent of those received are entirely illiterate; at Huntingdon the percentage is 10 per cent. Most of those reaching Pontiac are below the fifth grade in schooling.

VI.

MORAL TRAINING.

In most of the reformatories every inmate is required to attend religious services of some character at least once a week. Catholic, Protestant, and Jewish services are held at all of them. One of them publishes its own Sunday school lesson paper. Another has an authorized branch of the Y. M. C. A. as a part of the institution, so that on his release the inmate continues as a regular member of that organization.

No tobacco, stimulants, narcotics, or profane or obscene language is permitted in any of the institutions, and in all of them falsehood is one of the most serious offenses. In some institutions mottoes are freely placed on the walls of shops, dining rooms, etc., containing inspiring precepts. The rule books of the inmates are usually prefaced by an advisory address, well worded and calculated to be helpful. Ethical lectures are sometimes delivered by the superintendent or chaplain.

At Mansfield the aim of the administration is to remove degrading influences as far as possible. Here the silent system, the lockstep, corporal punishment, and deprivation of food are not believed in. It is their desire to dispense with any strongly distinctive uniform for the third grade. The cell of brick, that has a window, like that of a room, at which the occupant may sit in human fashion in the evening, is preferred to cagelike bars. A number of pairs of cells are being provided with a screened opening a couple of feet square between them, so that the occupants may converse, or may keep to themselves, as they may desire. A novel feature at Mansfield is the so-called honor bond, upon the giving of which the inmate is permitted to leave the enclosure and go at will back and forth to his work upon the farm. This is a formidable appearing document, duly signed and sealed, wherein the superintendent goes as personal surety upon the bond executed by the inmate to the disciplinarian, guaranteeing that the inmate will not attempt to escape. Out of 1,860 bonds given by men who were released daily to work without guards upon the extensive farm, only nine have been violated. The superintendent regrets having to seclude in barred cells men who hurry home each evening for fear of having the gates locked against them.

VII.

RECREATION.

At Rahway an hour and a half on Saturday afternoon is spent by the inmates in the large yard. Here they may play baseball, handball, or other games, lounge about, or mingle indiscriminately. At Pontiac and Mansfield there is also a time given in the yard for outdoor recreations. At Elmira and Huntingdon these privileges are not permitted; the time is devoted instead to military and gymnasium drill.

Each institution has both a band and an orchestra, and some have choirs, glee clubs, and the like. In some institutions music is one of the callings taught the inmates.

At Elmira there are monthly entertainments by vocalists, instrumentalists, impersonators, prestidigitators, etc. The other institutions frequently have similar entertainments, and also concerts. illustrated travelogues, moving pictures, and so on.

PAROLE.

The parole of inmates is in each case under the control of the board of managers, usually under such rules as they may formulate. The time of detention before eligibility to apply for parole ranges from one year to eighteen months. Prisoners who have committed the graver crimes, or the circumstances of whose offense was aggravated, are usually detained longer than others. At Mansfield one third of the applications recommended by the superintendent and chaplain are either denied or postponed.

No attorneys or advocates of the applicant are permitted to appear, nor do petitions on his behalf receive consideration. The disposition of the case depends entirely upon the applicant's institutional record and his crime.

At Elmira men are frequently paroled without promised employment, given ten days within which to secure it, and upon a failure to do so they are taken back into the institution until employment can be found for them. If a paroled man loses his employment within a specified time and is in need he is allowed an additional $5.00.

One of the gravest problems of the parole feature is finding employment, and the next is following up the men, especially in the large cities. An efficient staff of parole officers is considered to be absolutely necessary to the successful administration of reformatory work.

At Pontiac 90 per cent complete their parole, at the other institutions 80 per cent. All of the institutions are positive in their assertion that at least 60 per cent of the men never relapse into crime, although no statistics could be offered to prove the assertion. Some superintendents place the percentage of ultimate salvage higher.

Mansfield has a provision that any paroled man violating his parole, who has money to his credit at the institution or belonging to him on his person when returned, shall pay the expenses of his recapture, and forfeit any remaining balance to the state fund for the recapture of other violators. An elaborate system of blanks, reports, and records has been developed at some of the institutions for keeping track and a record of paroled men.

PROBATION.

All of the states visited have probation laws upon their statute books, although some of them are not generally in use by the courts. The New Jersey law applies not only to first offenders, but to any one, in the discretion of the judge. It is being largely used. The Pennsylvania law is not so largely in operation. Ohio has a unique probation law in operation in connection with its reformatory. When the court enters an order of probation the person at once passes from the court's jurisdiction into that of the reformatory and assumes the status of a paroled man, subject to all the rules of parole. He is detained in custody by the officers of the court until a representive of the reformatory can arrive and receive him and arrange for his release. Should he violate his probation and be apprehended he is at once taken into the reformatory without further process of law, and becomes a reformatory inmate as though given the maximum sentence for his offense. Some 200 probationers of this sort were reporting to the reformatory.

INSTITUTIONAL RECORDS.

The system and devices evolved for keeping complete records at several of the institutions merit high commendation, notably those at Elmira and Rahway. At Elmira the number of illiterates, or of any nativity, religious belief, age, or occupation, etc., in the institution at noon of any day can be determined at once by a glance at the records. The inmate is seldom verbally notified of any change in routine; he is served with a written notice on a blank form to move from one cell to another, to come to the office, to report to a certain military organization for drill, etc. In the event of an accident to an inmate, a complete record is made of all the circumstances and written statements are taken and preserved, and a physician's certificate is placed on file. The daily forenoon and afternoon count for every part of the institution is carefully proved, checked, recorded, and the forms filed away.

At Rahway the hospital records are particularly full and complete. Here they have a visitor's blank, upon which he checks his impression of the appearance of the institution in its various phases.

CONCLUSION.

Attached as exhibits to the original copy of this report is a sketch plan of each institution visited; also a copy of the laws of the several states, including some procured through correspondence, and several blank forms used at the institutions, as follows:

(*a*) Record blank for Binet tests, Rahway;

(*b*) Record of physical examination, Rahway;

(*c*) Record of medical examination, Rahway;
(*d*) Heredity chart, Rahway;
(*e*) Notice of demotion, Rahway;
(*f*) Visitor's score card, Rahway;
(*g*) A set of notices to inmates, Elmira;
(*h*) Daily count blanks (three), Elmira;
(*i*) Inmate's record, Elmira;
(*j*) A set of misbehavior report blanks, Huntingdon;
(*k*) Honor bond, Mansfield.

I shall not here attempt to point out the particular excellences of the respective reformatories visited; but I may safely say that if California shall conclude to establish a reformatory for adult first offenders, and shall embody therein the best features of existing reformatories in the United States, she will have a model institution and the best of its kind in the world.

I can not close without repeating the great paramount fact that impresses itself upon all whose investigations lead them to an intimate knowledge of such institutions, namely, that "as is the man at the head of the institution so is the institution." This must ever and constantly be kept in mind.

Respectfully,

TIREY L. FORD,
President State Board of Prison Directors.

EXHIBIT A

New Jersey Reformatory.

DEPARTMENT
OF RESEARCH.

RECORD BLANK
FOR BINET TESTS.

Inmate_______No.____Born______Examined_______Mental Development_____Years.

VI

1 R. Hand. L. Ear.

2 We get up in the morning; after breakfast we work; at night we go to bed.

3 Prettier? 1 & 2. 4 & 3. 5 & 6.

4 Fork horse.
Table mama.
Chair.

5 Key on chair: shut door: bring box.

6 How old?

7 Morning or afternoon?

VII

1 Lacks eyes, nose, mouth, arms.

2 Fingers R. Hand? L. Hand? Both?

3 Write from copy. (over.)

4 Copy diamond. (over.)

5 Repeat 4 7 3 9 5.

6 Describes picture.

7 Counts 13 pennies.

8 Penny, nickel, dime, quarter.

VIII

1 Memories. Time of reading.

2 Counting stamps. 111222.

3 Red, blue, green, yellow. Time.

4 20 — 1. Time.

5 Dictation. (over.)

6 Butterfly Wood Paper
Fly Glass Cloth

IX

1 Date.

2 Days M. T. W. T. F. S. S. Time.

3 25c.—9c.-

4 Definitions. (See VI 4.)

5 6 memories. (VIII 1.)

6 Arrange weights. 1. 2. 3 Time.

X

1 Month. J. F. M. A. M. J. J. A. S. O. N. D.
Time.

2 Money 1 5 10 25 50 1 2 5 10.

3 Sentence, Phila., Money, River.

4 1. 1
2 2
3 3
4
5

XI

1 a. Unfortunate Painter.
b. Three brothers.
c. Locked in the quiet.
d. R. R. accident.
e. Suicide.
Time

2 Sentence, Phila., Money, River. (X 3.)

3 60 words in three minutes. (over.)

4 Charity, Justice, Goodness.

5 a. We started at a good hour for the park.
b. I have asked my teacher to correct my exercise.
c. A good dog defends his master courageously.

XII

1 Repeat 2 9 6 4 3 7 5. 9 2 8 5 1 6 4. 1 6 9 5 8 4 7.

2 Rhymes day spring mill.

3 Repeat. "Children, it is necessary to work very hard for a living. You must go every morning to your school."
"The other day I saw in the street a pretty young dog. Little Maurice has got spots on his new apron?"
"Ernest is praised very often for his good conduct." "I bought at the store a beautiful doll for my little sister."
"There occurred on that night a frightful tempest with lightning. My comrade has taken cold. He has fever and coughs very much."

4 Problems: (a) Frightened at night.
(b) Neighbor's visitors.

XIII

1 Cutting paper (over).

2 Reversed triangle (over).

3 Pleasure and honor.
Evolution and revolution.
Event and advent.
Poverty and misery.
Pride and pretention.

EXHIBIT B

New Jersey Reformatory—Physical Department.

Name Rahway, N. J.,
No. of Inmate Date of Commitment
Age Color Cause of Commitment
Tobacco Drink Drug habit
Father (Living) (Dead) Age Cause of death
Mother (Living) (Dead) Age Cause of death
Hereditary diseases Mental condition

Physical Examination.		Inmate has had following Diseases.		
Arms	Lungs	Gout	Syphilis	Tuberculosis
Legs	Heart	Piles	Epilepsy	Appendicitis
Chest	Instep	Boils	Bronchitis	Constipation (chronic)
Shoulders	Deformities	Mumps	Pneumonia	Skin Eruptions
Abdomen	Complexion	Measles	Indigestion	Scarlet Fever
Nourishment	Appearance	Asthma	Gonorrhea	Typhoid Fever
		Malaria	Diphtheria	Persistent Cough
		Rupture	Rheumatism	Blood Spitting

Date										Improvement
Weight										
Height										
Chest Depth										
Abdomen Depth										
Shoulders Breadth										
Chest Breadth										
Waist Breadth										
Hips Breadth										
Head Girth										
Neck Girth										
Chest Girth, Nat.										
Chest Girth, Inf.										
Waist Girth										
Hips Girth										
Thigh Girth, R.										
Thigh Girth, L.										
Calf Girth, R.										
Calf Girth, L.										
Chins										
Dips										
Grip										
Lift										
Lung Capacity										
Total Strength										

EXHIBIT C

New Jersey Reformatory.

MEDICAL EXAMINATION.

Date____________________, 19___

No.____ Name____________________ Age______ Height_________ Weight_________

Received______ County______________ Crime___________ Nationality____________

White____Colored____Married____Single Arrested______times Religion______

MEDICAL HISTORY.

Family history.	Age.	Health.	Nationality.	**Family history.**	Age.	Cause.
Father living ______				Father dead ______		
Mother living ______				Mother dead ______		
How many brothers living? ______				How many brothers dead?______		
How many sisters living? ______				How many sisters dead?______		

Father's occupation____________________ Liquors—Drugs—Tobacco____________

Personal occupation ____________________ Liquors—Drugs—Tobacco____________

Previous illness or operations____

Insanity or epilepsy in family?____________Heart____________Lungs____________

Crippled or deformed________________________ Pulse rate________________

Sight ____________________________ Hearing__________________________

Condition of genitals__________________________ Venereal disease____________

Evidence of venereal disease____

Skin disease ______________ Vaccinated____________________

Mental condition __________ Physical condition________________

Urinalysis ____

Color_________ Condition____________ Reaction______________

Specific gravity_____________ Albumen __________ Sugar__________

Blood __________ Urea __________ Casts______________

Blood examinations ____

Hemoglobin________per cent. Erythrocytes____________ Leukocytes________

REMARKS ____

____

____

EXHIBIT C—Continued.

Date.	Diagnosis.	Treatment.	Date.	Diagnosis.	Treatment.

Exhibit D

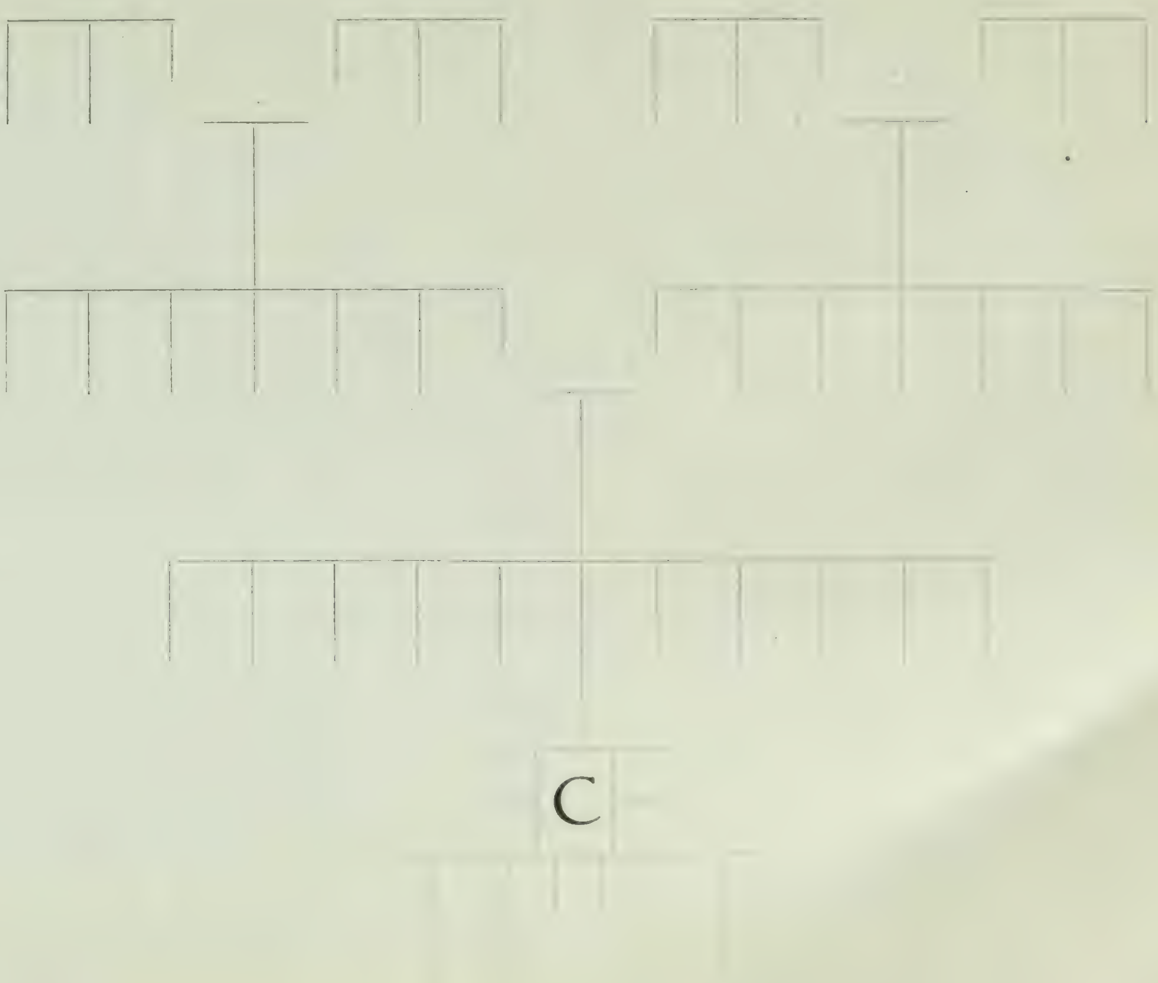
New Jersey Reformatory.

Frank Moore, Superintendent.

HEREDITY CHART.

I—Insanity
T—Tuberculous
C—Criminal
1-2-3—Times arrested
M—Mental defective
A—Alcoholic
D—Drug habit
E—Epilepsy
Cr.—Cigarettes
DI—Died infancy
Mis.—Miscarriage
S—Syhpilis
Ap.—Apoplexy
B—Blind
Br.—Broken family
Il.—Illegitimate
P—Poverty
Dd.—Dead
Time and age (age—year at death (cause

Cause of Death
t—Tuberculosis
o—Old age
p—Pneumonia
h—Heart failure
v—Violent
t—Typhoid fever
c—Cancer
i—Insanity
con.—Confinement
g—Gangrene
in.—Indigestion
b—Brain fever
a—Apoplexy
ap.—Appendicitis
d—Diabetes
r—Rheumatism



Inmate No.___ Name________ Age____ Present Crime________

EXHIBIT E

New Jersey Reformatory.

JOSEPH W. MARTIN, Superintendent.

Rahway, N. J., ________________, 19____

M____________________________

____an inmate, No.________of this Institution has, for misconduct, been this day reduced to the THIRD GRADE of Inmates.

While in this grade he can not write or receive letters, neither can he be visited. He is in good health, and should it be otherwise at any time I will so inform you.

Respectfully,

_____________________________________,
Superintendent.

____
____
____
____

EXHIBIT F.

New Jersey Reformatory.

FRANK MOORE, Superintendent.

VISITORS' SCORE CARD.

NOTE.—This card is given to visitors with the request that they kindly read same over and as they pass through the institution make a fair and strict criticism. Indicate your decision in proper column by an X and leave at office before going. This trouble will be greatly appreciated and the card need not be signed.

Date of visit ______________________	Excellent	Good	Fair	Poor	Objectionable
Impression on approach to institution.					
Condition of lawn and flowers.					
Courtesy and demeanor of officers.					
Cleanliness of floors.					
Appearance of walls.					
Neatness and cleanliness of rooms.					
Cleanliness of windows.					
Appearance and cleanliness of hospital.					
Condition of tuberculosis pavilion.					
Appointment of kitchen.					
Cleanliness of kitchen.					
Cleanliness of dishes.					
Amount and condition of food.					
Ventilation of buildings.					
Sanitation of buildings.					
Ventilation and condition of shops.					
Condition and sanitation of barn.					
Water supply.					
Condition of inmates' clothing.					
Discipline of inmates.					
Expression on inmates' faces.					

NOTE.—Please make any suggestions you may have on other side.

EXHIBIT G—1.

New York State Reformatory.

--------------------------------191

To------------------------------------

You are hereby notified of your PROMOTION to FIRST grade.

--------------------------------,
General Superintendent.

EXHIBIT G—2.

Cons. No.-------- Name---------------------------

Write what you wish to see me about.

--------------------------------,
Record Clerk.

EXHIBIT G—3.

WEDNESDAY P. M. ASSIGNMENT.

On Wednesday afternoon until further notice you will report to the--------------

----

--------------------------------191

--------------------------------,
Transfer Clerk.

EXHIBIT G—4.

Room No. ----------.

Cons. No.-------- Name---------------------------

Pack up and move to room------------

If you lose this slip you will receive a second class report.

--------------------------------,
Record Clerk.

EXHIBIT G—5.

NOTIFICATION SENT TO MAN.

Cons. No.-------- Name---------------------------

You have this day been mustered out of military.

Date----------------, 1909.

--------------------------------,
Transfer Clerk.

EXHIBIT G—6.

NOTICE FROM GUARD ROOM FLOOR.

Cons. No.-------- Name--------------------------

Your labor has been changed. Hereafter you will guide yourself by the following routine:

A. M. ----------------------------

P. M. ----------------------------

Military --------------------------

----------------, 1910.

-------------------------------,

Clerk.

EXHIBIT G—7.

No.-------- Room--------------------------

Remain in your room to-morrow morning till sent for.

----------------, 1906.

-------------------------------,

Transfer Clerk.

EXHIBIT H—1.

Cell List Count-------------, 191		Cell List Count-------------, 191	
Cell Block	A	Cell Block	A
Cell Block	B	Cell Block	B
Cell Block	C	Cell Block	C
Cell Block	D	Cell Block	D
Cell Block	E	Cell Block	E
Cell Block	F	Cell Block	F
Cell Clock	G	Cell Clock	G
Cell Block	H	Cell Block	H
Hospital		Hospital	
Seclusion		Seclusion	

EXHIBIT H—2.

SOUTH EXTENSION.

1	101	201	301
2	102	202	302
3	103	203	303
4	104	204	304
5	105	205	305
6	106	206	306
7	107	207	307
8	108	208	308
9	109	209	309
10	110	210	310
11	111	211	311
12	112	212	312
13	113	213	313
14	114	214	314
15	115	215	315
16	116	216	316
17	117	217	317
18	118	218	318
19	119	219	319
20	120	220	320
21	121	221	321
22	122	222	322
23	123	223	323
24	124	224	324
25	125	225	325
26	126	226	326
27	127	227	327
28	128	228	328
29	129	229	329
30	130	230	330
31	131	231	331
32	132	232	332
33	133	233	333
34	134	234	334
35	135	235	335
36	136	236	336

51	151	251	351
52	152	252	352
53	153	253	353
54	154	254	354
55	155	255	355
56	156	256	356
57	157	257	357
58	158	258	358
59	159	259	359
60	160	260	360
61	161	261	361
62	162	262	362
63	163	263	363
64	164	264	364
65	165	265	365
66	166	266	366
67	167	267	367
68	168	268	368
69	169	269	369
70	170	270	370
71	171	271	371
72	172	272	372
73	173	273	373
74	174	274	374
75	175	275	375
76	176	276	376
77	177	277	377
78	178	278	378
79	179	279	379
80	180	280	380
81	181	281	381
82	182	282	382
83	183	283	383
84	184	284	384
85	185	285	385
86	186	286	386

SOUTH WING.

401	451	501	551
402	452	502	552
403	453	503	553
404	454	504	554
405	455	505	555
406	456	506	556
407	457	507	557
408	458	508	558
409	459	509	559
410	460	510	560
411	461	511	561
412	462	512	562
413	463	513	563

426	476	526	576
427	477	527	577
428	478	528	578
429	479	529	579
430	480	530	580
431	481	531	581
432	482	532	582
433	483	533	583
434	484	534	584
435	485	535	585
436	486	536	586
437	487	537	587
438	488	538	588

SOUTH BLOCK.

601	651	701	751
602	652	702	752
603	653	703	753
604	654	704	754
605	655	705	755
606	656	706	756
607	657	707	757
608	658	708	758
609	659	709	759
610	660	710	760
611	661	711	761
612	662	712	762
613	663	713	763
614	664	714	764
615	665	715	765
616	666	716	766
617	667	717	767
618	668	718	768
619	669	719	769
620	670	720	770
621	671	721	771
622	672	722	772

626	676	726	776
627	677	727	777
628	678	728	778
629	679	729	779
630	680	730	780
631	681	731	781
632	682	732	782
633	683	733	783
634	684	734	784
635	685	735	785
636	686	736	786
637	687	737	787
638	688	738	788
639	689	739	789
640	690	740	790
641	691	741	791
642	692	742	792
643	693	743	793
644	694	744	794
645	695	745	795
646	696	746	796
647	697	747	797

NORTH BLOCK.

801	851	901	951
802	852	902	952
803	853	903	953
804	854	904	954
805	855	905	955
806	856	906	956
807	857	907	957
808	858	908	958
809	859	909	959
810	860	910	960
811	861	911	961
812	862	912	962
813	863	913	963
814	864	914	964
815	865	915	965
816	866	916	966
817	867	917	967

826	876	926	976
827	877	927	977
828	878	928	978
829	879	929	979
830	880	930	980
831	881	931	981
832	882	932	982
833	883	933	983
834	884	934	984
835	885	935	985
836	886	936	986
837	887	937	987
838	888	938	988
839	889	939	989
840	890	940	990
841	891	941	991
842	892	942	992

NORTH WING.

1001	1041
1002	1042
1003	1043
1004	1044
1005	1045
1006	1046
1007	1047

1011	1051
1012	1052
1013	1053
1014	1054
1015	1055
1016	1056
1017	1057

1021	1061
1022	1062
1023	1063
1024	1064
1025	1065
1026	1066
1027	1067

1031	1071
1032	1072
1033	1073
1034	1074
1035	1075
1036	1076
1037	1077

EXHIBIT H—3.

________________P. M. COUNT________________19___

	Sick	XX	Other Work	Present	Total		Sick	XX	Other Work	Present	Total
Bath House						Forward					
Bindery						Trade School Office					
Blacksmith Shop						Tailor Shop					
Bricklaying Department						Third Grade					
Brush and Broom						Tinsmith Shop					
Cabinet Shop						Yard					
Carpenter Shop						Upholstery Shop					
D. B. Construction						Officers' Restaurant					
Farm						Officers' Kitchen					
Foundry						Inmates' Kitchen					
Guard Room Office						First Grade D. R.					
Gymnasium P. C.						Second Grade D. R.					
Green House						Bakery					
Hall, Main						Bookbinding Class					
Hall, North X.						Brass Class					
Hall, South X.						Bricklaying Class					
Hospital						Cabinet Class					
Invalid Yard						Carpenter Class					
Laundry						Electricity Class					
Lawn						Fresco Class					
Machine Shop						H'd Wood Finishing Class					
Messengers						Horse Shoeing Class					
Monitors						House Painting Class					
New Men						Iron Forging Class					
Night Watch						Machine Class					
New Power House						Molding Class					
No. 1 Shop						Plastering Class					
Paint Shop						Printing Class					
Photo Department						Plumbing Class					
Printing Office						Photo Class					
Plumbing Department						Shoe Making Class					
Residence						Sign Painting Class					
School Director's Office						Stone Cutting Class					
Shoe Shop						Tailor Class					
Steward's Office						Tinsmith Class					
Store Room A.						Upholstery Class					
Store Room B.						Gang					
Switch						Gang					
Trade School Laborers						Gang					
Trade School Building											
Forward											

Recapitulation.

Count struck at P. M.

Count proved at P. M.

Present

Sick

XX

Other work

Count

Errors

EXHIBIT I.

Cons. No.____________ Name____________________________ Age_____________ Offense_________________ Maximum________ Years.

Height_________________ Weight_________________ Proposed trade________________________

Received________________________

Assignments { A. M. / P. M.

Military

Drawing school

Date.	Marks Lost.	DEBITS.							BALANCE.		CREDIT.		PARTICULARS OF DEBIT.							REMARKS. Trade or Employment. Contra Indicated.
		Demeanor.	Study.	Labor.	Expense.			Total.	Dr.	Cr.	Amount.		R P T S		Demeanor Offences.	Study Marking.	T S.	Dwg.	Trade Class.	
					Store.	Doctor.	Board						1	2						

(Blue Slip.)

EXHIBIT J—1.

Pennsylvania Industrial Reformatory.

OFFENSE REPORT.

__________________, 191

Name ______________________________

No.________ Grade________ Time______M.

I hereby report the above named inmate for the offense checked or explained below:

____________________________ Keeper.

1. Attempting to escape.
2. Assaulting an Officer.
3. Assaulting an instructor.
4. Assaulting an inmate.
5. Disobedience of orders.
6. Falsehood.
7. Failure in trade school class.
8. Fighting.
9. General crookedness.
10. Insolence.
11. Laziness.
12. Malicious mischief.
13. Profanity.
14. Refusal to work.
15. Stealing.
16. Threatening an officer.
17. Threatening an instructor.
18. Threatening an inmate.
19. Vulgarity.

EXPLANATION.

(Give it in full, both as a matter of information now and for your own protection in the future; leave the back of the ticket at the top blank. Send reports in promptly.)

____

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(Pink Slip.)

EXHIBIT J—2.

Pennsylvania Industrial Reformatory.

NEGLECT REPORT.

__________________, 1910.

Name ______________________________

No.________ Grade________ Time______M.

I hereby report the above named inmate for the offense checked or explained below:

____________________________ Keeper.

1. Arms not folded.
2. Bed not made before breakfast.
3. Bed not properly made.
4. Blanket not folded and hanging over foot of bed.
5. Clothing not hung up on hooks.
6. Coat not buttoned.
7. Coat collar turned up inside building.
8. Dilatory.
9. Dirty cell or fixtures.
10. Disorderly cell.
11. Hands in pocket.
12. Leaving light burning when out of cell.
13. Not having buttons for on clothes.
14. Not wearing outside shirt.
15. Not wearing slippers in school or chapel.
16. Not putting ration pan out of cell.
17. Not holding cell door shut when brake is drawn.
18. Not properly out of cell when brake is drawn.
19. Not rising when talking to teacher in school.
20. School cards on door after school hours.
21. Sleeping in room with light burning.

EXPLANATION.

(Give it in full, both as a matter of information now and for your own protection in the future; leave the back of the ticket at the top blank. Send reports in promptly.)

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(White Slip.)

EXHIBIT J—3.

Pennsylvania Industrial Reformatory.

DERELICTION REPORT

for inmates of the First Grade, for talking in line while marching to dining room, cell house, or any other place in line, or for talking in the dining room before the signal is given. Then, again, for talking after signal is given to stop talking at meal time.

Report vulgarity, stealing, profanity, insolence to officer on blue ticket.

__________________, 191___

Name ________________________________

No.________ Grade________ Time________M.

I hereby report the above named inmate for the offense checked or explained below:

______________________________ Keeper.

1. Cap not on straight.
2. Coat not buttoned.
3. Fussing or quarreling.
4. Gazing around room.
5. General bad conduct as explained below.
6. Laughing and fooling.
7. Not taking proper place in line.
8. Refusal to eat crust.
9. Soiling table cloth.
10. Spilling tea, coffee, water, or molasses on table or floor.
11. Talking in line.
12. Talking before signal.
13. Talking after signal to stop.
14. Talking from table to table.
15. Throwing.
16. Unbecoming conduct.
17. Wasting food.

EXPLANATION.

(Give it in full, both as a matter of information now and for your own protection in the future; leave the back of the ticket at the top blank. Send reports in promptly.)

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(Yellow Slip.)

EXHIBIT J—4.

Pennsylvania Industrial Reformatory.

DERELICTION REPORT.

__________________, 191___

Name ________________________________

No.________ Grade________ Time________M.

I hereby report the above named inmate for the offenses checked or explained below:

______________________________ Keeper.

1. Absence from school or chapel.
2. Addressing officer improperly.
3. Cap not on straight.
4. Communicating by signs.
5. Destroying articles. (State what.)
6. Disturbing cell house. (State what.)
7. Disorderly conduct in cell, school, or chapel.
8. Exchanging books or papers. (With whom.)
9. Gazing at visitors.
10. General bad conduct as explained below.
11. Hand not in proper place—school or chapel line.
12. Having books or papers not permitted. Give name of book and name and date of each paper and send to Superintendent at once.
13. Laughing and fooling.
14. Light not burning at time of count.
15. Neglecting or slighting his work.
16. Not coming out in line for ration pan.
17. Not saluting before speaking.
18. Only partly dressed when out for ration.
19. Purposely breaking step while marching.
20. Running or jumping on steps.
21. Sleeping with clothes on after bed time.
22. Slippers not blacked.

23–28. Talking or inattention. (State where.)

29. Using or having tobacco. (Either inside or outside the wall.)
30. Washing stockings in bathhouse.
31. Wasting food.
32. Water running in cell.
33. Wearing slippers to work, drill or in yard.
34. Writing notes or drawing pictures or having pencil or paper not permitted.
35. NOT AT DOOR FOR________P. M. COUNT.

EXPLANATION.

(Give it in full, both as a matter of information now and for your own protection in the future; leave the back of the ticket at the top blank. Send reports in promptly.)

____

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(Yellow Slip.)

EXHIBIT J—5.

Pennsylvania Industrial Reformatory.

GYMNASIUM DERELICTION REPORT.

__________________, 1910.

Name ______________________________

No.________ Grade________ Time______M.

I hereby report the above named inmate for the offense checked or explained below:

______________________________ Keeper.

1. Absence from gymnasium.
2. Arms not folded.
3. Cap not on straight.
4. Destroying apparatus. (State what.)
5. Destroying gymnasium card.
6. Exchanging clothing.
7. Exchanging apparatus without permission.
8. Fooling with apparatus.
9. General bad conduct as explained below.
10. Gazing at visitors.
11. Inattention at drill.
12. Knocking over, dropping, or breaking apparatus.
13. Late going to gymnasium.
14. Letting chest weight handles fly.
15. Leaving place without permission.
16. Not hanging up clothing.
17. Not keeping step.
18. Not counting.
19. Not answering at roll call.
20. Not obeying order promptly.
21. Sleeves not rolled up.
22. Stopping during exercise.
23. Spitting on the floor.
24. Talking or laughing in line or at drill.
25. Using or having tobacco.
26. Wearing slippers to gymnasium.

Report on blue ticket actual disobedience of orders, purposely breaking apparatus, or any other misconduct belonging under the head of offense report.

EXPLANATION.

(Give it in full, both as a matter of information now and for your own protection in the future; leave the back of the ticket at the top blank. Send reports in promptly.)

____

____

____

(Yellow Slip.)

EXHIBIT J—6.

Pennsylvania Industrial Reformatory.

MILITARY DERELICTION REPORT.

__________________, 19___.

Name ______________________________

No.________ Grade________ Time______M.

I hereby report the above named inmate for the offense checked or explained below:

______________________________ Keeper.

1. Absence from roll call.
2. Belt not on properly.
3. Cap not on straight.
4. Coat not buttoned.
5. Contending for place or crowding in ranks.
6. Creating a disturbance in ranks.
7. Damaging musket.
8. Inattention in ranks.
9. Late forming in line.
10. Leaving ranks on excuse and not returning.
11. Making reply when unnecessary.
12. Muttering or obstinate in ranks.
13. Not obeying order promptly.
14. Purposely breaking step.
15. Rendering an improper excuse.
16. Talking in ranks.
17. Using improper language.
18. Using tobacco.

EXPLANATION.

(Give it in full, both as a matter of information now and for your own protection in the future; leave the back of the ticket at the top blank. Send reports in promptly.)

____

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____

____

____

EXHIBIT K.

STATE OF OHIO.

BOND FOR FAITHFUL PERFORMANCE OF TRUST.

OHIO STATE REFORMATORY.

Know all Men by These Presents:

That,------------------------, Serial Number----, as Principal, and F. A. LEONARD, General Superintendent, as Surety, are held and firmly bound unto O. E. PFOUTS, Assistant Superintendent, of the Ohio State Reformatory, upon the word and honor of the above-named------------------------, and guaranteed by the above-named surety, that said------------------------, Serial Number----, shall well and truly carry out and honestly and faithfully perform all things to be done upon his part as hereinafter set forth.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, THAT,

WHEREAS, The above-bounden------------------------, Serial Number----, has been recommended to the Superintendent of the Ohio State Reformatory, by said O. E. PFOUTS, Assistant Superintendent, as being worthy of employment outside the enclosure of said Ohio State Reformatory and without special direction of a guard, with the request that if said recommendation is approved by said Superintendent, that authority be granted permitting said inmate to be employed outside said enclosure as aforesaid, and,

WHEREAS, Said Superintendent, upon the strength of said recommendation and upon his judgment based upon a personal interview with said inmate, together with the conduct of said inmate during his stay at said institution, has approved the recommendation of said Assistant Superintendent, and has authorized the employment of said inmate outside the enclosure of said institution, without special guard.

Now, if the said------------------------, Serial Number----, shall well and faithfully execute the trust thus reposed in him and shall observe and obey all the rules and regulations governing said trust, then this obligation, with all penalties provided for in the rules and regulations, shall be void, and on the release of said------------ -----------on parole from The Ohio State Reformatory, he shall be given this bond to keep and to hold as positive evidence to all concerned, not only of his good record as an inmate of the Reformatory, but that he enjoyed the confidence and faith of the management on the grounds, that in all things, he conducted himself as becomes a man and a good citizen.

WITNESS our hands this------day of----------, A. D. 191--

[Principal]

[Surety]

KEY TO SKETCH PLAN

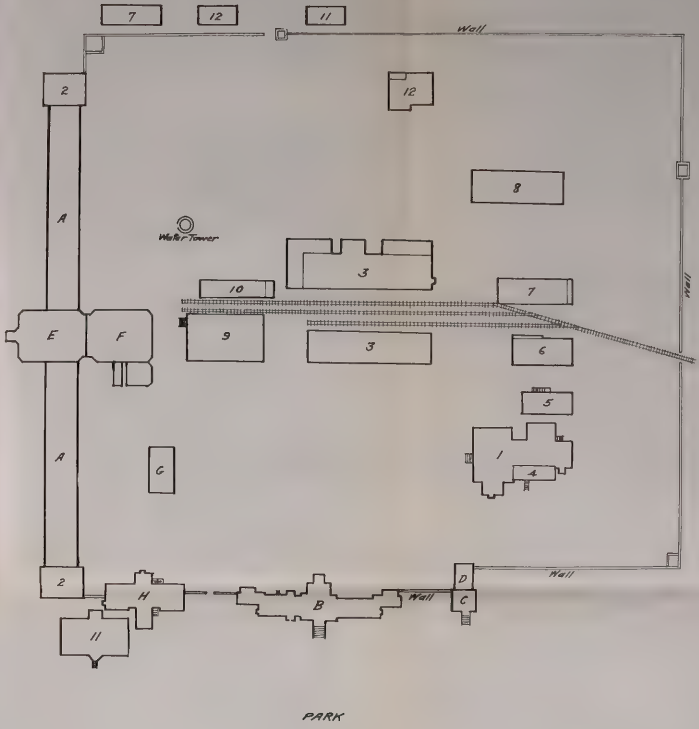
OF

ILLINOIS STATE REFORMATORY

AT

PONTIAC.

A-A	Cell houses.
B	Offices and Superintendent's residence.
C	Assistant Superintendent's residence.
D	Officers' quarters.
E	Central building (three stories):
	First floor, dining-room;
	Second floor, juvenile dormitory;
	Third floor, chapel.
F	Kitchen, officers' dining-room on second floor.
G	Captain's office.
H	Hospital.
1	Main school building.
2	School buildings.
3	Technical school shops (two stories).
4	Shoe shop.
5	Paint shop.
6	Foundry.
7	Warehouses.
8	Print shop.
9	Power house.
10	Coal shed.
11	Greenhouses.
12	Barns.



SKETCH PLAN
OF
ILLINOIS STATE REFORMATORY
AT
PONTIAC

To accompany Report of Tirey L. Ford

KEY TO SKETCH PLAN

OF

OHIO STATE REFORMATORY

AT

MANSFIELD.

A-A Cell blocks.

B First floor, bathroom.
  Second floor, schoolrooms.

C First floor, commissary;
  Second floor, printing office.

D Administration building, offices, and Superintendent's residence.

E Central building (five stories):
  First floor, engine room;
  Second floor, dining-room;
  Third floor, guard-room;
  Fourth floor, chapel.
  Fifth floor, hospital.

F Kitchen and bakery.

G Laundry.

1 Cold storage, ice plant, storehouse, shoeshop on second floor.

2 Machine shop, carpenter shop, tailor shop on second floor.

3 Engine room, barber school on second floor.

4 Trades school building.

5 Blacksmith shop.

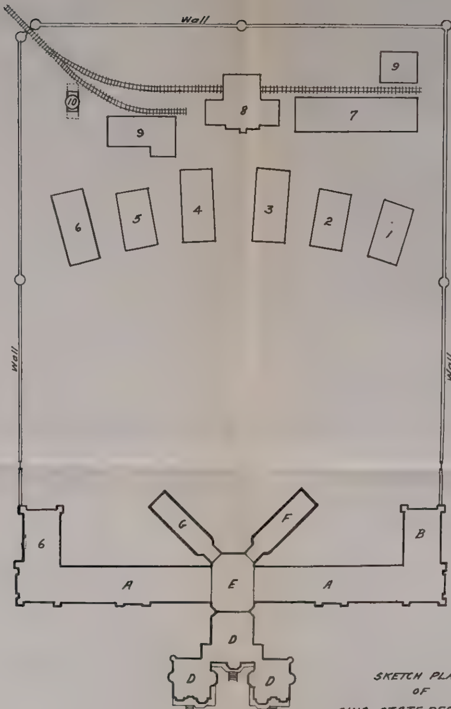
6 Barn.

7 Manual training department.

8 Boiler house.

9 Brick-drying houses.

10 Brick-kiln.



SKETCH PLAN
OF
OHIO STATE REFORMATORY
AT
MANSFIELD

To accompany Report of Tirey L. Ford

KEY TO SKETCH PLAN

OF

PENNSYLVANIA REFORMATORY

AT

HUNTINGDON.

A-A Cell houses.

B-B Offices and residences of Superintendent and Deputy Superintendent.

C Central building (three stories):
    First floor, guard room.
    Second floor, library and offices.
    Third floor, chapel.

D-D Domestic building (two stories):
    First floor, inmates' and officers' dining-rooms, kitchen, bakery, laundry, barbershop, baths.
    Second floor, printing shop, drill room, band room, tailor shop.

E-E Schools (three stories).

F Solitary cells.

G Cold storage.

H Hospital (three stories).

1-1 Brick kilns.

2-2 Technical training shops (two stories).

3 Foundry.

4 Machine shop.

5 Blacksmith shop.

6 Dynamo room.

7 Boiler house and coal room.

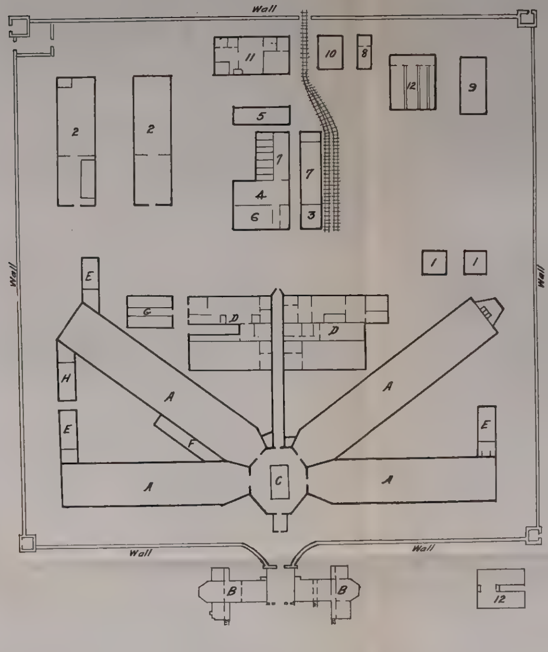
8 Oil and paint rooms.

9 Tool house.

10 Ice house.

11 Stable.

12 Greenhouses.



SKETCH PLAN
OF
PENNSYLVANIA REFORMATORY
AT
HUNTINGDON

To accompany Report of Tirey L. Ford

KEY TO SKETCH PLAN
OF
NEW JERSEY REFORMATORY
AT
RAHWAY.

A-A Cell wings, 53 feet by 257 feet.

B Central dome.

C "Tie-to" building (three stories high):

  First floor, offices, barber shop and reflection cells.

  Second floor, hospital.

  Third floor, tubercular open-air ward.

D Domestic building, 60 feet by 200 feet (three stories and basement):

  Basement, laundry, and bathrooms.

  First floor, dining-room and chapel.

  Second floor, schoolrooms.

  Third floor, drill hall.

1 Kitchen.

2 Bakery.

3 Officers' dining-room.

4 Cold storage (ice plant in cellar).

5 Scullery (tinshop in cellar).

6 Contagious hospital.

7 Industrial building (three stories, 60 feet by 200 feet).

8 Power house.

9 Blacksmith shop.

10 Paint shop.

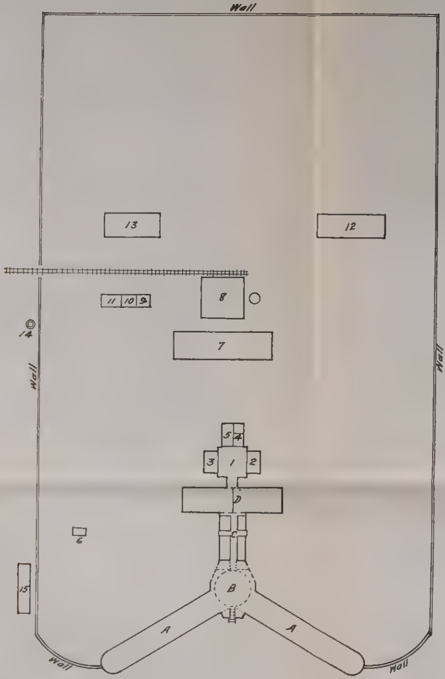
11 Lumber shed.

12 Trades school building (one story, 45 feet by 145 feet).

13 Trades school building (two stories, 45 feet by 114 feet).

14 Artesian well.

15 Greenhouse.



SKETCH PLAN
OF
NEW JERSEY REFORMATORY
AT
RAHWAY

To accompany Report of Tirey L. Ford

KEY TO SKETCH PLAN

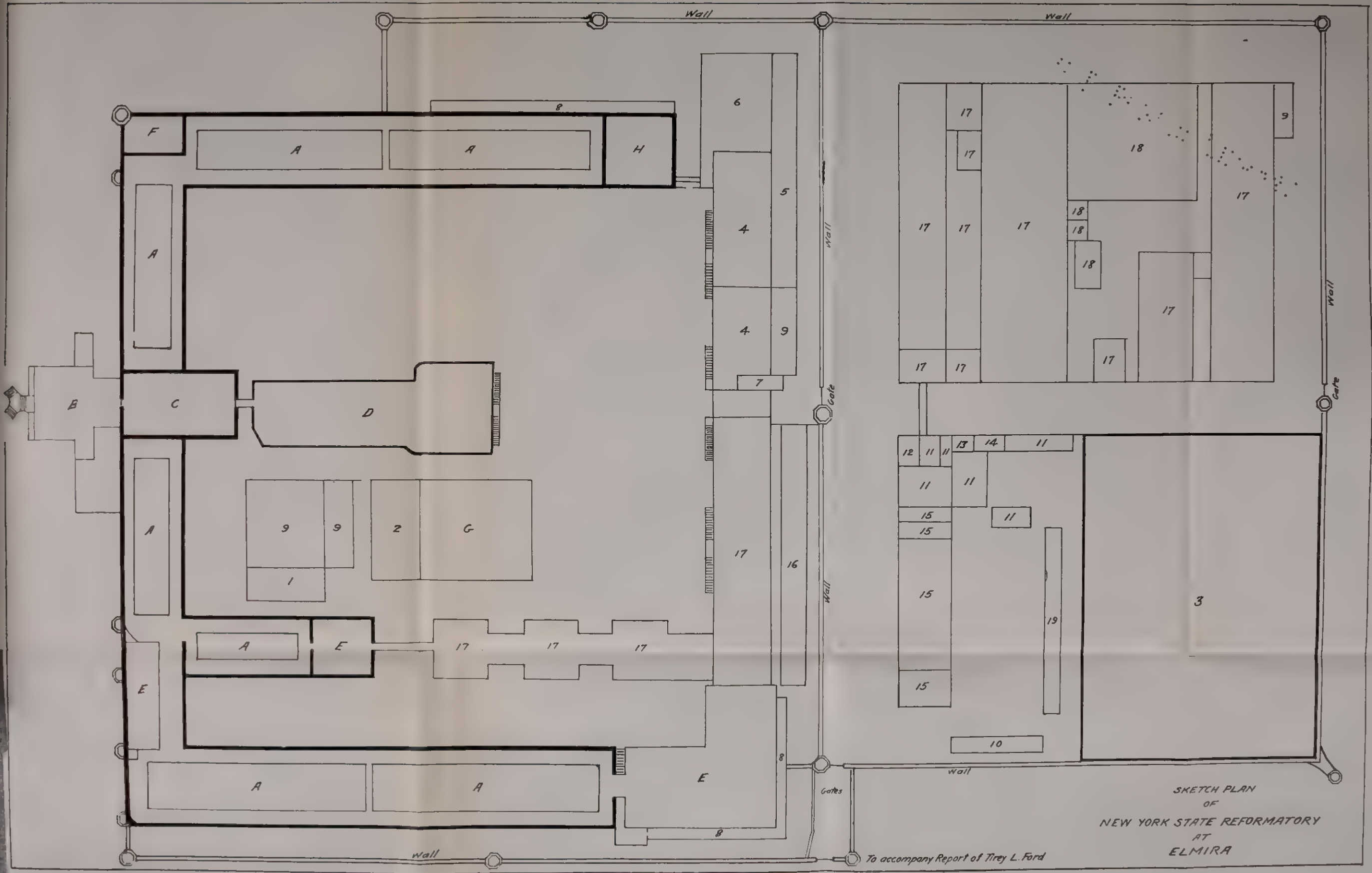
OF

NEW YORK STATE REFORMATORY

AT

ELMIRA.

A-A	Cell blocks.
B	Residence, offices, and waiting rooms.
C	Central building (three stories): First floor, entrance cage and colonel's office. Second floor, guard room, library, steward's offices. Third floor, chapel.
D	Domestic building (four stories and basement), containing officers' and inmates' dining-rooms, bakery, storerooms, refrigerating plant, offices; officers' quarters on top floor.
E	Schoolrooms (three stories).
F	Officers' quarters (three stories).
G	Gymnasium.
H	Hospital (three stories).
1	Dynamos and coal chutes.
2	Baths.
3	Armory.
4	Laundry, trades schools on second floor.
5	Baths.
6	Storehouse.
7	Engines and boilers.
8	Bucket houses.
9	Boiler rooms.
10	Soap shed.
11	Stables, carriages, harness, etc.
12	Fire engine house.
13	Hose tower.
14	Oil stores.
15	Storerooms and ice house on first floor, trades schools on second floor.
16	Sterilizing shed.
17	Two-story trades schools buildings.
18	Foundry, cupolas, blowers, etc.
19	Lumber shed.



SKETCH PLAN
OF
NEW YORK STATE REFORMATORY
AT
ELMIRA

To accompany Report of Tirey L. Ford

EXHIBIT C.

SUGGESTED DRAFT OF ACT TO ESTABLISH A REFORMATORY FOR ADULT FIRST OFFENDERS IN CALIFORNIA.

An act to create a branch state prison to be known as the California state reformatory; to provide for the purchase of land and the construction of buildings and other improvements in connection therewith; to provide for the commitment and transfer of prisoners thereto and therefrom; to provide for the equipment, conduct, and management thereof; and to make an appropriation therefor.

The people of the State of California, represented in senate and assembly, do enact as follows:

SECTION 1. Immediately upon the passage of this act, the State Board of Prison Directors shall select and purchase a suitable tract of land of not less than six hundred (600) nor more than fifteen hundred (1,500) acres; erect thereon suitable buildings and improvements for a branch state prison, to be known as the California State Reformatory, with a maximum capacity of one thousand (1,000) prisoners; and properly equip the same for reformatory purposes.

SEC. 2. The State Board of Prison Directors, as soon as they shall deem it safe and proper so to do, may transfer from the San Quentin and Folsom prisons to said reformatory any male prisoner confined in either of the two former prisons who is not more than thirty (30) years of age and who has never, so far as known, been previously committed to any state prison or penitentiary.

SEC. 3. So far as may be safe and practicable the construction and equipment of said reformatory shall be done by prison labor, and for this purpose prisoners, regardless of age, may be temporarily transferred from either the San Quentin or the Folsom prison. All work provided for in this act, including construction and equipment and the purchase of material and supplies, shall be done under the exclusive jurisdiction, direction, and control of the State Board of Prison Directors, and the provisions of no act, other than the provisions of this act, shall apply to any of said work.

SEC. 4. Upon the completion of said reformatory the State Board of Prison Directors shall so report in writing to the Governor, who shall make public proclamation thereof; and thereupon and thereafter prisoners shall be committed to said reformatory as hereinafter provided.

SEC. 5. All male persons not less than sixteen nor more than twenty-five years of age, who shall be convicted in any of the courts of this State of any crime punishable by imprisonment in the state prison, and who shall never have been previously committed to a state prison or penitentiary, shall be committed to the California State Reformatory.

SEC. 6. No judgment, sentence, or commitment, by which any prisoner is committed to said reformatory, shall fix any term or limit of duration of the imprisonment of such prisoner, but in all such cases the prisoner thus committed shall remain in said reformatory for the maximum length of time prescribed for imprisonment in the state prison for the offense for which he is committed to said reformatory, unless sooner released by the State Board of Prison Directors in the manner hereinafter provided.

SEC. 7. The board shall establish rules and regulations for the paroling of prisoners from said reformatory, and shall have full power to enforce such rules and regulations and to parole prisoners thereunder, and to retake and imprison any paroled prisoner. A written order, signed by the president or any member of the board, shall be a sufficient warrant for any officer named therein to authorize such officer to return to actual custody any such paroled prisoner, and it is hereby made the duty of all chiefs of police, marshals of cities, towns, and villages, and sheriffs of counties, and all police, prison, and peace officers and constables, to execute any such order in like manner as ordinary criminal process. The Governor shall have like power to cancel and revoke the parole of any prisoner, and his written authority shall likewise be sufficient to authorize any of the officers named therein to retake and return said prisoner to said reformatory, and his written order cancelling or revoking the parole shall have the same force and effect and be executed in like manner as the order of the State Board of Prison Directors. If any prisoner so paroled shall leave the state without permission from said board, he shall be held to be an escaped prisoner and shall be arrested as such.

SEC. 8. The State Board of Prison Directors shall also establish rules and regulations governing the final discharge of prisoners from said reformatory prior to the expiration of the maximum term of their commitment. Under such rules and regulations, when adopted, the board may order finally discharged from said reformatory any paroled prisoner when, in the judgment of the board:

1. He is reliable and trustworthy;
2. He will remain at liberty without violating the law;
3. His final release will not be incompatible with the welfare of society.

In all such cases the order of final discharge shall show:

1. The date of the commitment of the prisoner;
2. The prisoner's record, briefly stated, while detained in the reformatory;
3. The date of his parole.
4. His conduct, briefly stated, while on parole;
5. The reasons for granting the final discharge.

SEC. 9. The State Board of Prison Directors may transfer to either the San Quentin or the Folsom prison any prisoner committed to the reformatory, and may return to the reformatory any prisoner who may have been so transferred. Every prisoner so transferred to either the San Quentin or the Folsom prison shall be held therein, subject to all the rules and discipline of such prison, for the remainder of the full maximum term provided by law, less credits earned for good behavior, unless returned to the reformatory as above provided.

SEC. 10. The laws governing the state prisons of this State in relation to escapes, prevention of escapes, suppression of riots, revolts, mutinies, or insurrections, and the punishment of crimes committed therein, are thereby made applicable to the reformatory.

SEC. 11. The State Board of Prison Directors shall:

1. Establish rules and regulations for the conduct, government, and management of said reformatory, and enforce the same.
2. Determine the necessary officers and employees of the reformatory, including a superintendent and a clerk, prescribe their duties and fix their salaries.
3. Appoint, and remove at their pleasure, the superintendent and the clerk.

SEC. 12. The superintendent shall appoint, and remove at his pleasure, all officers and employees of the reformatory other than the superintendent and the clerk. The superintendent shall, under the supervision, direction, and control of the State Board of Prison Directors, have full charge of the reformatory and of the prisoners therein confined, and of the conduct and management thereof, save as to those matters and things that are, or may be, by the board assigned to the clerk.

SEC. 13. There is hereby appropriated out of any money in the treasury not otherwise appropriated the sum of one million dollars for the purpose of carrying out the provisions of this act; *provided, however*, that said sum shall become available as follows: Four hundred thousand dollars ($400,000) thereof on the first day of July, A. D. one thousand nine hundred and eleven (1911), four hundred thousand dollars ($400,000) thereof on the first day of July, A. D. one thousand nine hundred and twelve (1912), and two hundred thousand dollars ($200,000) thereof on the first day of July, A. D. one thousand nine hundred and thirteen (1913). All claims hereunder shall be audited by the State Board of Examiners and the State Treasurer shall pay the same upon Controller's warrants drawn therefor.

SEC. 14. This act shall take effect immediately.

TWENTY-FIRST BIENNIAL REPORT

OF THE

BOARD OF FISH AND GAME COMMISSIONERS

OF THE

STATE OF CALIFORNIA

FOR THE YEARS 1909-1910

COMMISSIONERS:

1909.	
GEORGE STONE	SAN FRANCISCO
F. W. VAN SICKLEN	ALAMEDA
M. J. CONNELL	LOS ANGELES
1910.	
F. W. VAN SICKLEN	ALAMEDA
M. J. CONNELL	LOS ANGELES
W. G. HENSHAW	OAKLAND

SACRAMENTO:
W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING.
1910

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TWENTY-FIRST BIENNIAL REPORT

OF THE

BOARD OF FISH AND GAME COMMISSIONERS.

San Francisco, Cal., November 11, 1910.

Hon. J. N. Gillett,
Governor, State of California, Sacramento, Cal.

Sir: In accordance with law, the Board of Fish and Game Commissioners have the honor to submit for your consideration its Twenty-first Biennial Report, showing the receipts and expenditures from July 1, 1908, to June 30, 1910; also a record of its work from the date of its last report, September 1, 1908, to September 1, 1910.

Owing to the exhaustion of the appropriation given the Commission for printing at the thirty-seventh session of the legislature, the Board was unable to print for general distribution its twentieth biennial report. You will find in the Appendix of this report a reprint of that report as submitted to you and the members of the thirty-eighth session, that it may in this way take its place in the history of the Commission.

During the thirty-eighth legislative session we succeeded in having the statutes so amended that after July 1, 1909, ample authorization could be found permitting us to pay for all necessary printing and stationery supplies out of our own funds without taxing the general fund of the State therefor, and we are, therefore, able this year to present a more elaborate and detailed report.

We also submit for your consideration such recommendations as in our judgment the legislature should, for the betterment of existing conditions, provide enactments.

The personnel of the Commission since its biennial report of 1906 has undergone several changes. On May 14, 1907, Mr. George Stone of San Francisco, who had been appointed by you to fill the vacancy caused by the resignation of Mr. W. W. Van Arsdale, presented his credentials and took office. On June 25, 1907, Mr. F. W. Van Sicklen of Alameda succeeded to the vacancy caused by the resignation of Mr. W. E. Gerber, who, with Commissioner Van Arsdale, had served nearly six years. At the first meeting of the Board held May, 1907, George Stone was elected president, and served until May 12, 1910. On July 15, 1908, Mr. M. J. Connell of Los Angeles, who had been appointed by you, presented his credentials to the Board, succeeding Mr. John Bermingham, Jr., of Pinole (resigned), who had served from March 23, 1905. On May 12, 1910, Mr. W. G. Henshaw of Oakland, who had been appointed by you to fill the vacancy caused by the resignation of George Stone, took his seat as a member of the Board. On August 15, 1910, Mr. Chas. A. Vogelsang, who had been the Chief Deputy of the Board since October 15, 1901, and who on May 12, 1910, tendered his resignation as such officer, was succeeded on August 15, 1910, by John P. Babcock, who was the Chief Deputy of the Board from 1892 to 1901.

In order to better meet the demands made by the steadily increasing volume of business, it was decided to establish a southern district, with headquarters at Los Angeles, and that office to be under the personal supervision of the resident commissioner, Mr. M. J. Connell, to whom all deputies in southern California should report. This office was established July 1, 1908, and embraces the counties of San Diego, Imperial, Riverside, Orange, San Bernardino, Los Angeles, Inyo, Ventura, Santa Barbara, and San Luis Obispo.

The results proving so satisfactory, another district was established June 1, 1909, in the San Joaquin Valley, with headquarters at Fresno, and Deputy A. D. Ferguson placed in charge. The San Joaquin district embraces the counties of Kern, Kings, Tulare, Fresno, Mariposa, Merced, Madera, Stanislaus, and Tuolumne.

This segregation of the work has greatly facilitated the dispatch of business and proved of great advantage to the respective sections, and strongly suggests the advisability of establishing a third district in the northern part of the State.

The results that have followed amendments to the statutes during the thirty-seventh and thirty-eighth legislative sessions, and which became laws by your approval, have been in the main satisfactory.

The commercial fisherman's license law, as amended at thirty-eighth session produced a total revenue for the first year of its operation of $22,350.00, as against a maximum collection under the old law of $6,647.50, or an annual gain of more than $15,000.00. Under the provisions of this law a fee is exacted of every person who fishes for profit, whether using boat, nets, crawfish traps, or lines of any kind. This feature has enabled us to collect from many who were practically exempt under the old law, which applied only to those who used boats and nets. The total amount arising from this source is added to the appropriation of $20,000.00, made for the support and maintenance of hatcheries. It has enabled us to carry out necessary improvements at our Eel River and Sisson hatcheries, and to acquire two entirely new and modern patrol boats, without a cent of appropriation therefor.

Without this source of revenue it would be an absolute necessity, in order to keep up the standard of our hatcheries and maintain an efficient patrol over the commercial fisheries, to ask for a larger appropriation from the general fund of the State.

Should any change be deemed necessary in the present license law, it should in our opinion lie in the direction of a still higher fee from the alien who comes to our State to improve his condition, and in the majority of cases gives but little or nothing in return for the benefits he receives. It is well understood that an individual who engages in farming must first acquire land, for which he pays a fixed price, either in original cost or rental, in addition to which he must pay for the tools and seed to plant it; but the fisherman gets thousands of acres of water, rent free, and the State pays for the seeding of it; his only outlay is for the tools he works with, therefore he can well afford to pay a liberal license fee, which goes for the maintenance and betterment of the very industry out of which he earns a livelihood.

We are pleased to report the continued success of the hunting license law, now in its fourth year—the popularity of which is best shown by the returns. Our State took second place in the Union in its first year, being exceeded only by the State of Illinois, which has a population of 5,000,000, as against 2,000,000 for California. The total value of sales in Illinois was approximately $150,000.00; in California $118,000.00. There was a falling off in sales for the second year of about $3,500.00, due to the use of a metal tag for a license, which bore no identification other than a number, and rendered loaning and trading comparatively easy and detection of the offense very difficult. For the third year, ending June 30, 1910, the record shows a gain of $14,000.00 over the preceding year, or a grand total of $128,452.00. While some complaint has been heard regarding the use of a paper license, we feel the returns have fully justified the change. All states that have used a metal license have abandoned it in favor of a paper or cloth license, on which can be inscribed the purchaser's name, with his description and signature.

A recommendation, which had the universal endorsement of the sportsmen of the State, that a combined hunting and angling license be adopted, good for either hunting, or angling, for game fish, or both, we regret to say failed of final passage in the assembly. One most important point was gained, however, in making the law apply to the hunting of any wild birds and animals, as distinguished from *protected* birds and animals. This law removes all excuse for being out in the field without a license under the pretext of shooting unprotected game —a loophole that was quickly taken advantage of by most of the aliens, who would not take out a $25.00 license. It resulted in the sale of more alien licenses, but its best effect was shown in keeping them out of the field, where their indiscriminate slaughter of all kinds of song birds, as well as game birds and animals, is well understood.

The reduction in bag limits on quail, dove, snipe, curlew, ibis, plover, rail, and other shore birds from 25 to 20, and on wild ducks from 35 to 25, has met with the universal approval of all genuine sportsmen, the only exception being a complaint from some market dealers and hotels against the reduction in the bag limit on ducks. This complaint will continue so long as ducks may be bought and sold.

The two years close season on mountain quail and corresponding extension of the close season on grouse and sage hens was wise and timely. Both birds are showing a decided increase, and when the present restrictions expire September 1, 1911, and provision is made for bag limit and season, we believe that by a careful enforcement and observance of the law the supply will never be perceptibly diminished.

Our recommendation with regard to making it an offense to use any trained animal, except a dog, as a blind or means of approach for the purpose of killing wild ducks or other waterfowl became a law, and has materially benefited the duck situation by putting out of business some of the most notorious ''bull-hunters,'' against whom a vigorous campaign was waged. We confidently believe this season will put an end to their further operations.

While no recommendations were made by this Commission with reference to a change from the season when deer could be lawfully killed (July 15th to October 1st), a number of bills on that subject were introduced in both houses. After fierce debating and many amendments a compromise was finally decided upon, making an open season of three months, from August 1st to November 1st. Unfortunately through a clerical error, a misprinted bill, or one that never passed the Senate, fixing the open season July 15th to November 1st, received your signature. There being so much confusion over the matter, the Attorney General was appealed to and in an exhaustive opinion he advised us to recognize the open season from July 15th to November 1st, or three and a half months, and we have been governed accordingly. In our opinion this season must be shortened at least one month, and the opening date fixed at August 1st, closing date October 15th. While this still leaves a very generous open season, we believe the increase in deer in all the northern and central counties, also the counties reaching the Sierra Nevada Mountains, due to the bounty paid on mountain lions, will warrant it. The exception is in southern California, embracing the counties from San Luis Obispo southward, where, owing to devastations by forest fires, deer cover has been greatly reduced, and through remarkable increase in population with approximate increase in the number of deer hunters the deer have become scarce.

The legislature acted favorably upon our recommendation with respect to placing wild turkeys on the protected list. This action was timely, as the birds that had been liberated in the San Bernardino Mountains, Sequoia Park, eastern Tulare County, and in the Yosemite National Park are showing an encouraging increase.

The change in the law relating to pheasants, whereby the restrictions were removed from those raised in captivity, has proven of great advantage to pheasant raisers. It has given encouragement to many who had started in a small way and found themselves with a considerable number of birds on hand, and no legal means to dispose of them. It also permits them to be freely transferred from one part of the State to another and sold for purposes of propagation, but withholds the right to sell for market purposes. We believe, however, that further encouragement should be given by allowing those raised in captivity to be sold in the markets under proper restrictions.

Some important changes have also been made with respect to the laws governing the taking of fish. We recommended at the thirty-eighth session of the legislature that the law on crabs be changed by raising the then existing close season, September and October, and establishing in lieu thereof a close season of four months beginning November 1st and ending on March 1st of the following year. While this was a step in the right direction, we do not consider it sufficient, and will recommend that a close season of two years be established.

The legislature acted favorably upon our recommendation with respect to establishing a close season for the taking of striped bass with nets or seines, fixing the time from the first of May to the first of July of each year, and permitting their capture by hook and line only during that period. A reduction was also made in the legal mesh of nets with which these fish could be captured from 7½ to 5½ inches. It seemed inconsistent that while striped bass might be taken and legally possessed weighing not less than three pounds, a 7½-inch mesh net would not capture one weighing less than five or six pounds. This offered a great temptation to the fishermen and resulted in many infringements. The legal mesh for the taking of salmon was also reduced from 7½ tc 6½ inches.

Our recommendation for a close season of at least two years on lobsters or crawfish was met by fixing an indefinite close season on the taking of them in the waters of California, but permitting crawfish or lobster that were taken without the waters of this State to come in under prescribed restrictions.

Section 632½, referring to the steelhead trout, was amended by removing the close season that existed concurrent with the salmon law from September 17th to October 23d, and fixing a total weight limit in one day at 50 pounds. This met with much favor from all anglers.

The law was further amended by extending the open season and permitting their capture in any of the waters of the State from the first of April to the first of February of the following year, eliminating the tide water clause. So long as the prohibition against the taking of these fish with nets continues, no other restrictions are necessary. From a limited number of anglers a request was made asking that the taking of steelhead be permitted at all seasons of the year, with which we have not agreed, as we believe they should have protection while on their spawning beds—the principal months for which are February and March, the present close season.

During the thirty-eighth session of the legislature, the title of the Commission, which had remained the same since the establishment of this department in 1870, was changed from "Board of Fish Commissioners" to "Board of Fish and Game Commissioners."

To simplify the keeping of accounts, not only in our own office, but in the offices of the State Treasurer, State Controller, and Board of Examiners, the balances remaining in the fish commission fund and the game preservation fund were combined into one fund, known as the fish and game preservation fund, into which are paid all moneys arising from the sale of hunting licenses and of fines collected for violations of any of the fish and game, and fish and game license laws of the State, and providing further that this fund shall be applicable to the payment of the expense of propagating, protecting, restoring, and introducing *game fish* into the public waters of the State, and to the propagation, protection, restoration, and *transferring* of *game birds* and animals in this State, and to the *introduction* of game birds and animals into the State, and to the payment of the expenses incurred in the prosecution of offenders against the fish and game, and fish and game license laws of the State, and to all other necessary expenses approved by the Fish and Game Commissioners.

The State now appropriates only $20,000.00 per year, and that for the support and maintenance of the commercial hatcheries (being at the rate of only one cent per head on the estimated population of two millions), to which is added the amount, approximately $22,000.00, arising from the sale of commercial fishermen's licenses. This fund is applicable to the payment of the expenses of "propagating, protecting, restoring, and introducing *commercial* fishes into the public waters of this State, and all other expenses pertaining thereto."

The sportsmen who pay for hunting licenses are not contributing toward the support of the commercial hatcheries, as is sometimes charged. All fines of whatever character, amounting approximately to $20,000.00 per year, are paid into the fish and game preservation fund, which more than meets the expense involved in the propagation of game fishes.

Section 642 of the Political Code was amended by amplifying the powers of the Fish and Game Commissioners and their deputies, authorizing them to seize and take possession of any and all game or fish or any part thereof which have been caught, taken, killed, had in possession or under control, sold, offered for sale, or shipped, or offered for shipment, contrary to any laws of the State, and providing that any game or fish so seized shall be by them donated to some charitable or public institution. This amendment has proven of value, but far better results would be obtained were our deputies granted the "right of search," following in that respect the example of New York, Maine, Minnesota, Massachusetts, Colorado, Washington, and many other states. The deterrent effect alone of such a law would be very great; it would simplify the work of our assistants, and, in short, its value to fish and game preservation can not be overestimated.

Another important amendment to this section gave the Fish and Game Commissioners the right to acquire, by lease or otherwise, such lands as may be deemed necessary for the purpose of establishing state game farms. Under this authorization we were able to carry out our plans and established our first game farm near Hayward, Alameda County.

ALLEGED TRUST OF DEALERS IN FISH.

This Commission views with approval the activity of the Attorney General and the district attorney of the city and county of San Francisco in investigating the alleged existence of an illegal combination or trust among fish dealers. Although such illegal combinations may affect species of fish propagated and distributed by this Commission and make it possible to sustain market prices by selling any surplus to fertilizing plants, investigations or prosecutions instituted thereon are entirely beyond and outside of the province of the Board, under the authority and powers now vested in it. And in this connection this Commission suggests to you that it might be advisable to call the attention of the legislature to the fact that an act regulating and licensing fish dealers by this body and give to it the necessary power to cancel such license upon conviction of violation of the laws protecting fish would be a most effective means of curbing such evils.

ARRESTS AND FINES.

The following statement gives in brief the history of our work as it relates to the efficiency of the patrol force. It indicates that the work has been thorough and far-reaching, and covers every class of offense relating to the fish and game laws, and it has reached practically every corner of the State. This statement is taken from the docket kept in our office, which shows all the cases in detail, but in a report of this kind it is necessarily abbreviated. Three fourths of the cases have been made by our regular deputies—the remainder by men of the United States Forestry Service and others interested in this work who have been empowered by us with authority to make arrests for violations of these laws. Especially good service has been rendered by forest rangers acting under service order No. 22, which is as follows:

> SERVICE ORDER NO. 22.
>
> WASHINGTON, D. C., September 25, 1908.
>
> OBSERVANCE OF STATE LAWS BY FOREST OFFICERS.
>
> It has recently been brought to the attention of this Service that forest officers themselves have in rare instances failed to observe the State game laws. Strict observance, both by act and example, of all State laws, whether for the protection of game or for other purpose, is one of the first duties of every forest officer. Under no circumstances should one forest officer shield or condone the act of another who violates the game laws. To do so differs little from actual violation of the law itself. This Service will not tolerate violation of the State game laws by any of its members, or failure to coöperate fully with State game officials.
>
> GIFFORD PINCHOT, Forester.

We desire at this time to express our appreciation for the valuable assistance rendered by that department.

It will be observed that in by far the larger number of cases the defendants pleaded guilty, which may be taken as an indication of the thoroughness with which the evidence had been collected. But in addition to the cases which were actually brought into court, hundreds of complaints have been examined, some of which we found had not been made in good faith; others in which sufficient evidence was not obtainable to justify a prosecution.

Many seizures of fish and game that had been shipped (or offered for shipment) in violation of the statutes, or had been killed contrary to law, were made. In many of these cases, convictions followed the seizure. In others, owing to use of fictitious names, we were unable to locate the shipper, but some punishment was effected by confiscation of the game or fish, which meant a loss of time, labor, and the goods.

At the thirty-eighth legislative session the right was given to the Fish and Game Commissioners and assistants to seize and take possession of any and all game or fish, or any part thereof, which had been taken, killed, or had in possession or under control, or sold, or offered for sale or shipped, or offered for shipment, contrary to any of the laws of this State. It provided further that all such game or fish, or any part thereof, which might be so seized or taken possession of by the Fish and Game Commissioners, or their assistants, shall be donated by them to some charitable or public institution. Practically all institutions of that character in and around San Francisco and the other larger cities of the State have been beneficiaries under this law, and from many of them we have received grateful letters of acknowledgment.

FISH CASES.

Summary of arrests made by deputies of the Fish and Game Commission, and disposition of cases for two years, ending August 31, 1910.

Number of arrests	Violation charged with.	Convicted	Acquitted	Dismissed	Fine.	Number of days' imprisonment
85	Fishing without a license	78	1	6	$820 00	100
57	Young of fish, catching or possession	31	------	26	695 00	------
62	Using Chinese shrimp or bag nets for the purpose of taking fish (43), close season (11), exporting (8)	40	------	22	3,630 00	------
36	Using small mesh nets to take striped bass	9	2	25	625 00	550
35	Using set nets to take salmon and striped bass (1 pending)	29	------	5	2,900 00	275
14	Nets extended more than one third across stream (striped bass)	4	1	9	425 00	------
6	Using wire traps or nets for the purpose of catching fish	6	------	------	575 00	------
20	Using explosives	14	1	5	926 00	1,062
13	Polluting waters of State (sawdust, oil, etc.). See note	1	2	10	250 00	------
3	Taking fish within 50 feet of fishway	1	------	2	100 00	------
21	Salmon, catching or possession, close season (2 pending)	6	------	13	950 00	------
6	Saturday and Sunday fishing for salmon, shad, and striped bass	2	------	4	210 00	------
40	Striped bass, underweight, catching or possession	34	1	5	775 00	------
1	Sturgeon, catching or possession, close season	1	------	------	20 00	------
23	Black bass, close season, bag limit, catching by other means than hook and line, etc.	23	------	------	620 00	130
2	Sacramento perch, close season, spearing, etc.	2	------	------	25 00	20
82	Trout, close season, bag limit, undersized, buying or selling underweight, etc.	65	2	15	1,415 00	185
28	Steelhead, close season, spearing, etc.	16	2	10	300 00	------
2	Golden trout, close season, bag limit, etc.	2	------	------	50 00	------
162	Crabs, close season, undersized, female	110	------	52	1,990 00	103
18	Abalones, close season, possession	14	2	2	345 00	------
20	Crawfish, close season, undersized	16	2	2	355 00	------
8	Catfish, undersized	5	------	3	125 00	------
7	Taking surf fish by other means than hook and line	7	------	------	130 00	------
1	White fish, catching or possession	1	------	------	20 00	------
2	Lobsters, illegal shipping	2	------	------	------	150
754	Totals	519	16	216	$18,276 00	2,575

Three cases pending.

NOTE.—In these cases, all of which represent actions against corporations, the charges were dismissed after the court and the board were satisfied that the repair and other work done by the defendants, amounting in the aggregate to $39,650, rendered further pollution impossible.

GAME CASES.

Summary of arrests made by deputies of the Fish and Game Commission, and disposition of cases for two years, ending August 31, 1910.

Number of arrests	Violation charged with.	Convicted	Acquitted	Dismissed	Fine.	Number of days' imprisonment
351	Violation of hunting license law (2 pending)	300	10	39	$3,936 50	20
42	Doves, close season, killing or possession	38	3	1	945 00	------
2	Doves, bag limit, concealed package	2	------	------	75 00	------
3	Doves, buying or selling	3	------	------	75 00	------
22	Ducks, close season, killing or possession	15	5	2	418 00	2
66	Ducks, bag limit (1 pending)	45	4	16	1,345 00	------
5	Ducks, netted (drowned)	3	------	2	75 00	------
1	Ducks, illegally shipped, concealed package	1	------	------	25 00	------
6	Shooting ducks from power boat while in motion	4	1	1	70 00	------
13	Using a trained animal for the purpose of killing wild ducks or geese	3	10	------	50 00	------
34	Night shooting (2 pending)	17	6	9	375 00	------

GAME CASES—Continued.

Number of arrests	Violation charged with.	Convicted	Acquitted	Dismissed	Fine.	Number of days imprisonment.
10	Shooting on enclosed grounds (trespass)	8	------	2	$140 00	------
4	Hunting on Pinnacles National Forest Reserve without permit, and State game preserve	4	------	------	220 00	------
4	Mountain quail, killing or possession	4	------	------	100 00	------
72	Quail, close season, killing or possession	62	1	9	1,747 00	103
10	Quail, bag limit	5	------	5	200 00	------
5	Quail, buying or selling	2	------	3	150 00	------
5	Trapping quail or having quail or quail eggs in possession without permit, illegally shipped	5	------	------	100 00	------
9	Snipe, close season, bag limit, etc.	7	------	2	175 00	------
10	Curlew, rail and plover, close season	7	------	3	175 00	------
105	Non-game birds, meadow larks, robins, eagle, condor, swans, sea gulls, and other shore birds	84	2	19	1,135 00	------
2	Pheasants and Hungarian partridges, close season	1	------	1	25 00	------
105	Deer, killing, pursuing, possession, close season, illegally shipped	82	9	14	2,149 00	61
6	Deer, bag limit	4	2	------	65 00	35
17	Deer, pursuing with dogs	12	1	4	225 00	60
56	Female deer and fawns, killing (2 pending)	36	8	10	1,747 00	143
26	Female deer or spotted fawn hides in possession and deer hides in possession, evidence of sex removed	9	10	7	250 00	25
3	Deer hides, buying or selling (2 pending)	1	------	------	25 00	------
1	Elk, killing or possession	1	------	------	50 00	------
4	Antelope, killing	1	------	3	75 00	------
18	Tree squirrels, close season, killing or possession	15	2	1	350 00	------
1,017	Totals	781	74	153	$16,492 50	449

NOTE.—Nine cases pending.

SEIZURES OF NETS, FISH, AND GAME MADE BY DEPUTIES.

September 1, 1908, to September 1, 1910.

49 set nets. Owners unknown. Destroyed under section 636*a*, Penal Code.

11 small mesh nets (salmon and striped bass). Owners unknown. Destroyed under section 636*a*, Penal Code.

22 Chinese shrimp nets.*

3,248 pounds of salmon. Donated to charities.
8,157 pounds of striped bass. Donated to charities.
1,510 pounds of black bass. Donated to charities.
2,842 pounds of steelhead trout. Donated to charities.
2,272 pounds of trout (rainbow, Eastern brook, and cut-throat). Donated to charities.
725 pounds of shad. Donated to charities.
880 pounds of catfish. Donated to charities.
580 pounds of small smelt. Donated to charities.
417 pounds of crawfish. Donated to charities.
628 crabs. Donated to charities.
236 abalones. Donated to charities.
87,290 pounds of California shrimp shells.†
1,255 pounds of California shrimps† (dried).
380 dozen ducks. Donated to charities.
14 dozen doves. Donated to charities.
34 dozen quail. Donated to charities.
7 dozen snipe. Donated to charities.
1 dozen gray squirrels. Donated to charities.
14 dozen plover. Donated to charities.
30 dozen non-game birds. Donated to charities.
425 dozen murre eggs. Donated to charities.
162 rabbits. Donated to charities.
250 pounds of venison. Donated to charities.

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*Returned after settlement of cases.

†Returned to the owners by order of the court.

The above table indicates that upwards of 20 tons of fresh salmon* were seized which had been shipped into the State contrary to law. Over 40 tons of dried shrimp and shrimp shells*; upwards of four tons of striped bass; more than two tons of trout of the different varieties; more than 1,500 pounds of black bass, were seized, all of which indicates the vigilance of our patrol force.

The set nets and small mesh nets that were taken, and by order of the court destroyed, represented a considerable money value and miles of netting. There were fewer arrests of individual fishermen for violation of the salmon and striped bass laws than in the two preceding years, owing, we believe, to the watchfulness of our patrol and the successful prosecutions that followed, especially in Solano County. This also accounts for the larger number of seizures of illegally used gear, as fishermen rather than risk being caught in the use of the nets would set and leave them, returning when the time seemed most favorable to avoid detection. A conservative estimate of the total value of the illegally used nets destroyed is $10,000.00.

As to game, upwards of 380 dozen ducks, 34 dozen quail, 14 dozen doves, 30 dozen non-game birds of different varieties, besides snipe, plover, gray squirrels, and rabbits were seized and donated to different charities in and around San Francisco, the Almshouse being one of the largest beneficiaries. Grateful letters of acknowledgment have been received from many of these institutions.

For the two years ending August 31, 1910, the total number of arrests made is 1,771, as against 1,192 for the preceding two years, showing a gain of 579. Of this number 752 were for violations of the fish laws, and 1,017 for violations of the laws relating to game. The total amount of fines imposed aggregate the substantial sum of $34,768.50. Of this amount $18,276.00 was paid for violations of the fish laws, and $16,492.50 for violations of the game laws. In some cases the defendants served time and paid a small amount into the county treasury. In other cases the magistrate imposed a fine without alternative, thus giving the defendant an opportunity to seek new fields. The total number of days' imprisonment served for violation of the laws aggregated for the biennial period 3,024 days.

The largest aggregate *amount in fines imposed* for violations of any single section of the Penal Code was upon the Chinese shrimp fishermen and dealers engaged in the capture and handling of California shrimp, for which 119 arrests were made, penalties imposed amounting to $4,325.00. The largest number of *arrests* for violations of any one section was for infractions of the hunting license law in various forms, 351 men having been apprehended during the two years, and a total of $3,936.50 imposed in fines.

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*Returned to the owners by order of the court.

The next in number of arrests was for violations of various sections of the laws relating to the protection of deer, for which offenses 211 arrests were made, of which 56 were for killing does or fawns, and for which fines amounting in the aggregate to $1,747.00 were imposed.

Seventeen arrests were made for running deer with dogs, out of which 12 convictions were obtained; 6 arrests were made for exceeding the bag limit on deer, 27 for violating the laws relating to possession and sale of illegal deer hides. For fishing for profit, without a license, 85 arrests were made, and fines amounting to $820.00 imposed, as compared to 5 arrests for this offense in the preceding biennial period.

FINANCIAL STATEMENT.

The resources and expenditures of this Commission for the sixtieth and sixty-first fiscal years, beginning July 1, 1908, and ending June 30, 1910, are shown as follows:

SIXTIETH FISCAL YEAR—1908 AND 1909.

	Resources.	Disbursements.
Support and Maintenance of Hatcheries Fund—		
Appropriation for year	$20,000 00	
Amount drawn during the year		$20,000 00
Restoration and Preservation of Game—		
Appropriation for year	10,000 00	
Amount drawn during the year		10,000 00
Restoration and Preservation of Fish—		
Appropriation for year	10,000 00	
Amount drawn during the year		10,000 00
Fish Distribution Car—		
Balance on hand July 1, 1908	2,041 24	
Amount drawn during the year		2,041 24
Appropriation for Fish Repository in Tuolumne County—		
Balance on hand July 1, 1908	200 05	
Balance on hand June 30, 1909		200 05
Game Preservation Fund—		
Balance on hand July 1, 1908	73,359 66	
Receipts from hunting licenses	113,476 93	
Receipts from fines	15,565 41	
Fish Commission Fund—		
Balance on hand July 1, 1908	6,391 04	
Receipts from fisherman's licenses	6,647 50	
Receipts from eggs sold to Germany	375 00	
Amount drawn during the year on these two funds, which were combined by law March 15, 1909, includiung expenses June, 1908		139,162 52
Balance on hand July 1, 1909		76,653 02
Totals	$258,056 83	$258,056 83

SIXTY-FIRST FISCAL YEAR—1909 AND 1910.

	Resources.	Disbursements.
Support and Maintenance of Hatcheries Fund—		
Appropriation for year	$20,000 00	
Receipts for fisherman's licenses	21,982 50	
Amount drawn during the year		$41,982 50
Fish and Game Preservation Fund—		
Balance on hand July 1, 1909	76,653 02	
Receipts from hunting licenses	126,734 35	
Receipts from fines	19,789 27	
Game farm earnings	938 22	
Amount drawn during the year		150,796 65
Balance on hand June 30, 1910		73,318 21
Appropriation for Fish Repository in Tuolumne County—		
Balance on hand July 1, 1909	200 05	
Balance on hand June 30, 1910		200 05
Totals	$266,297 41	$266,297 41

In the Appendix will be found a report on the books and accounts of this Commission by Price, Waterhouse & Co., ''Certified Public Accountants,'' for the biennial period ending June 30, 1910, and an additional report on account of the years 1910–11, from July 1st to August 24th, 1910, inclusive.

SISSON HATCHERY.

This station is operated under the supervision of Mr. W. H. Shebley, whom we regard as one of the ablest and most skillful fish culturists of this country. Combined with his good practical judgment, Mr. Shebley unites the results of twenty-five years' experience and deep study of the scientific side of all questions relating to fish culture—with special reference to salmon and trout. The splendid results accomplished at this hatchery are due almost solely to the intelligent zeal with which this work has been carried on under Mr. Shebley's direction. With regard to its location and equipment, it has no superior in this country or any other.

While the output of salmon fry was less than in the preceding biennial period, this was not due to a scarcity of salmon at the spawning stations or lack of effort on the part of the employees of the United States Federal Bureau of Fisheries to capture them. Unusual freshet conditions prevailed, which raised the waters to such a stage on the McCloud River and in Battle and Mill creeks that thousands of salmon impounded between the racks were permitted to escape, either by swimming over the obstructions or by the carrying out of entire sections; although comparatively a smaller number of eggs were taken, a high percentage of hatch was achieved. On the other hand, the output of trout fry from this station has enormously increased.

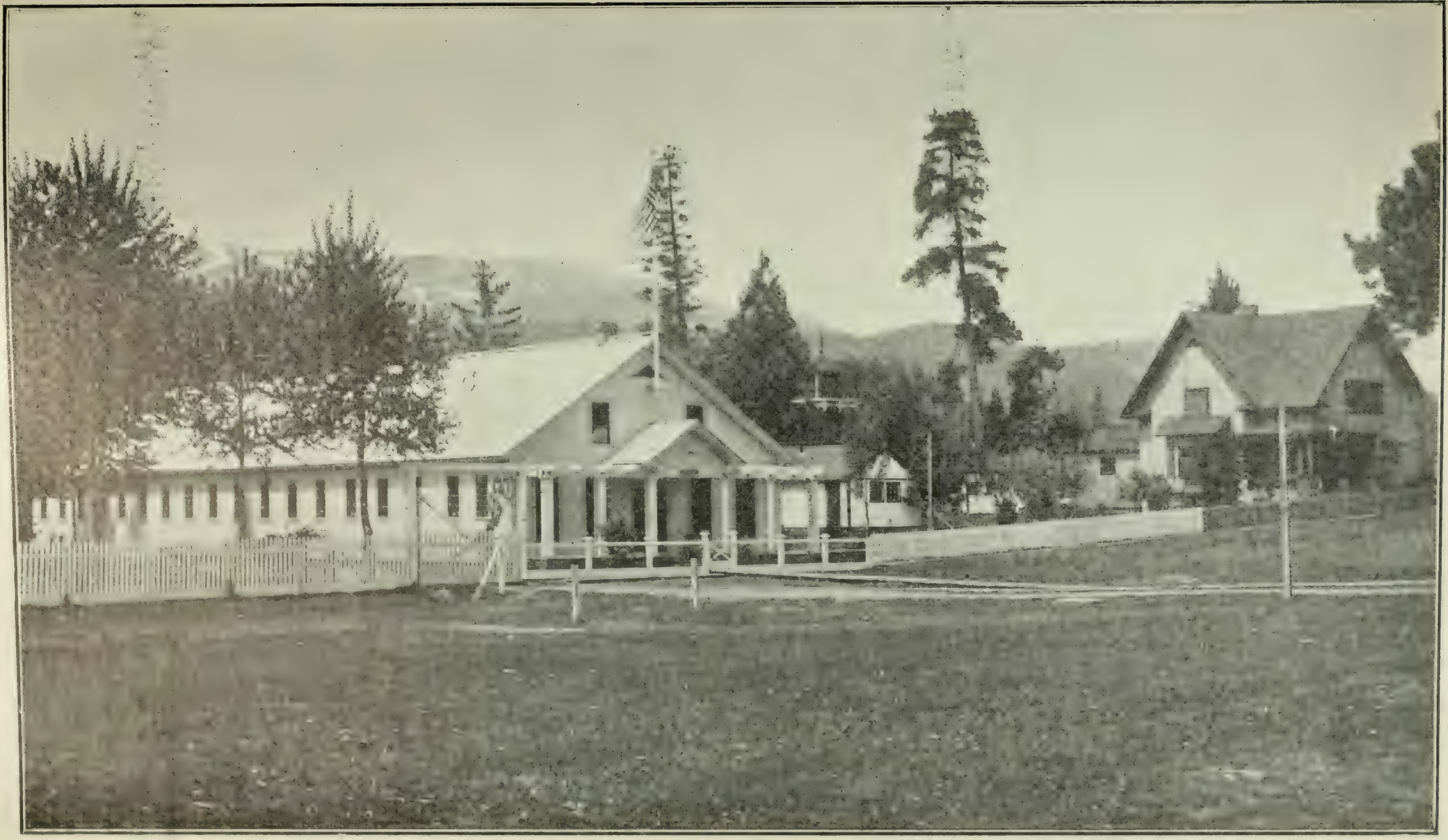
For the purpose of comparison, we submit the following statement showing the output of this station in 1900, or ten year ago, with the output for the present fiscal year, also an interesting view of the hatchery taken twenty years ago:

	1900.	1910.
Salmon fry	1,651,000	22,500,000
Rainbow trout fry	560,000	5,205,000 *120,000
Cut-throat trout fry	90,000	150,000
Loch Leven trout fry	264,000	1,484,000
Eastern brook trout fry	6,000	1,000,000
Steelhead trout fry		303,000
German brown trout fry	136,000	
Totals	2,707,000	30,762,000

*120,000 hatched at Shovel Creek.

While the total distribution from this station for the year 1907 reached 67,000,000 and 60,000,000 in 1908, this was due to the larger

Tallac Hatchery.



Hatchery "A," Sisson, 1910.

number of salmon eggs that were collected at the three Federal salmon egg-collecting stations.

The work of the Federal Bureau of Fisheries is under the able direction of Capt. G. H. Lambson, who confidently expected to break all records in the number of eggs collected during the fall of 1909, there being more spawning fish impounded between the racks than at any time in the fifteen years he has operated on the streams in our State. The unusual November rains brought such a flood down Battle Creek that the racks, piling, and all were swept out, and the water continued at such a high stage that it was impossible to replace them until after the entire run of salmon had passed on to head waters. For details of the work that has been performed at Sisson for the past four years, we refer you to Mr. Shebley's reports, which will be found in the Appendix.

This station is now in first class condition, and the improvements are all of a substantial and permanent character and will require only the ordinary charges of maintenance.

THE SALMON LAW.

At the thirty-eighth session of the legislature we recommended a change of five days on the close season for the taking of salmon. We suggested that the close season begin on the 15th of September instead of September 10th, and end October 21st instead of October 16th. There was a general complaint from the canneries and cold storage plants to the effect that the fall run of salmon was appearing later; that the close season commenced before the run had reached its height, and that the bulk of the fish were passing the fishing grounds during the close season. Together with the fisherman, they asked for two weeks' extension of the open season. It resulted in a compromise, and a change of one week was effected. The close season now begins September 17th and ends October 23d. No change, however, was made in the very important feature of the law which prohibits the taking of salmon above tide water before the 15th of November. For years the importance of the tide water clause was imperfectly understood, and provoked a great deal of criticism from the fisherman living along the upper Sacramento and San Joaquin rivers, who did not realize that but for this restriction there would be nothing to prevent many of the five hundred boats that fish in the lower rivers from following the schools of salmon up the rivers, which would result in practically capturing all of them before reaching the spawning grounds. Without the protection given the salmon under the law, the Federal Bureau of Fisheries stations would not be able to take a sufficient number of eggs at the spawning stations to justify carrying on the work of artificial propagation, which has been the salvation of the salmon supply in our waters, and would in a very short time result in the extermination of the species in the Sacramento River.

The high price of salmon that has prevailed for the past three or four years has been an incentive for more men to engage in the business. The improved method of handling the fish and the better transportation facilities have given the Sacramento salmon almost a world-wide market, which was fully set forth in our nineteenth biennial report. The constantly increasing market is a most important factor in keeping up the price; and this induces the fishermen to extra effort, which is shown on the upper Sacramento, where by the removal of snags and other obstructions in the river new seining grounds have been cleared off, permitting the operations of more nets during the spring run. This has had the effect of reducing the take of eggs from the summer run at Baird Station. We see no reason for any change in the law as it applies to the fall run, but it is not at all unlikely that additional restrictions may be necessary upon the capture of the spring run in order to permit a larger number of parent fish to reach Baird. As the spring fish commands about double the price of the fall run, such a recommendation would meet fierce opposition; nevertheless, if careful investigation shows that increased spring fishing decreases the supply of parent fish at the hatcheries, such additional restrictions should be imposed in spite of any opposition.

At the thirty-eighth session of the legislature we recommended that the mesh of net with which salmon could be legally taken should be reduced from 7½ to 6½ inches. This recommendation which had the endorsement of Dr. C. H. Gilbert of Stanford University, who has made a very careful study of the subject, became a law. A recommendation on the same lines had been made by the late Cloudsley Rutter, who was considered one of the best informed authorities on the Pacific coast salmon. He found that a great many small but matured fish were passing through the nets and making their appearance in large numbers between the racks at the spawning stations, where they were regarded as a nuisance. It is not considered desirable to breed from the smaller stock. As these fish have a positive food value before reaching the headwaters of streams, where they spawn and die, it was considered that an important food supply was being wasted, when with a smaller mesh net they would be captured while in prime condition for fresh market use. It was found that the fishermen operating in Eel River, also in the upper Sacramento, who use cotton nets, which were of legal size when new, but shrunk to 6½ inches when in actual service, were substituting sections of still smaller mesh. We therefore recommended another amendment, making it unlawful to use a net for the taking of salmon, shad or striped bass, "any of" the meshes of which were less than prescribed by law. We also had substituted the word "use" for the word "set" in section 636. This also removed another legal snag that had caused the dismissal of several cases, as it had been successfully argued that the law was misleading; that it was not a positive prohibition against setting a net, and it had been so construed in one or two cases. We have now a better and more closely drawn law, the provisions of which can not be so easily evaded.

To further advance the salmon interests, we have with the coöperation of the Federal Bureau of Fisheries undertaken the establishment of a salmon egg-collecting station on the Klamath River in Siskiyou County, near the town of Klamathon, the expenses of installation to be borne jointly, the Bureau to pay operating expenses, and the hatching and distribution to be done at and from Sisson at our expense.

That the supply of salmon in the waters of this State is not only being maintained but positively increased through artificial propagation, there can be no question. The federated commercial bodies of Humboldt County in a petition to this Board, under date of May 27, 1910, asking that the capacity of the Eel River Hatchery be increased, call attention to the fact that "beginning in 1901, four years after the hatchery was established, the amount of fish caught increased very rapidly, so that for the five years 1903–1907, inclusive, the annual average of shipment was over 3,000,000 pounds, as against an annual average of about 300,000 pounds before the hatchery was established."

In spite of such trustworthy evidence there are still some who fail to appreciate what has been accomplished, and look upon the artificial propagation of fishes with mild toleration, and point backward to the "good old days" when "a man could cross the river on the backs of the salmon without getting his feet wet."

In support of our contention and as evidence of the value of our work, we append herewith three comparative tables showing the number of pounds of salmon taken in three periods of four years each, the first commencing in 1874 (or thirty-six years ago), and extending to August, 1878, the second showing the amount taken (each year) for the years 1893 94–95–96, and the third being *an approximation* of the number of pounds of fresh salmon taken in 1907–08–09–10.

Years.	Pounds.
1874-1875	5,098,781
1875-1876	5,311,423
1876-1877	6,492 563
1877-1878	6,520,768

It was submitted by the Fish Commissioners in their report for the years 1878–79 to Governor Wm. Irwin that "to the weight of salmon actually taken to market by rail and steamboat, and the salmon actually tinned, we have added 25 per cent, the total being a close approximation of the actual catch for the season.''

The following figures for the years 1893 to 1896, inclusive, were taken from the books of dealers and transportation companies and display the actual catch of those years:

Years.	Pounds.
1893	3,950,373
1894	4,494,618
1895	4,350,375
1896	3,276,587

It will be observed by reference to the second table that there was a decided decrease; but dating from that time a remarkable increase is shown, due to larger experience and improved methods; but the most important factor was the establishment of more spawning stations, beginning with one established by this Commission on Battle Creek, Shasta County, in 1895. This station produced in its first year of operation upwards of 14,000,000 salmon fry, which exceeded the total number ever planted in any previous four years and marked the commencement of a new era in salmon propagation. The United States Bureau of Fisheries located in 1901 a spawning station on Mill Creek, in Tehama County, and also acquired from the State its property and rights on Battle Creek, and has continued to operate with great success both stations, delivering to us free of cost practically the entire output of these stations and a large proportion of those taken on the McCloud River.

Years.	Pounds.
1907	9,111,200
1908	8,001,750
1909	11,211,400
1910	10,256,600

The third table, submitted by us, is based on the number of tierces of salmon actually packed, of which there is a record furnished by Mr. F. E. Booth of the Sacramento River Packers' Association, and to which is added an estimate made by dealers of the number of pounds of fresh salmon sold in the San Francisco markets. We do not include the fresh salmon which is shipped from Tehama and Chico into Oregon and Washington, nor from Sacramento to Eastern States, nor that which is sold and consumed in the local markets of Sacramento and Stockton, which, based on such figures as are obtainable, approximates 800,000 pounds annually.

STRIPED BASS.

From the commercial standpoint, the striped bass stands next in value to the salmon as a food fish in this State. It is also one of the most highly prized of the game fishes, being eagerly sought after by thousands of anglers throughout the State. The principal breeding grounds, so far as we have been able to determine by close observation of the subject for the past three years, are in the deltas of the Sacramento and San Joaquin rivers, although after spawning they range well into the interior of the State. Specimens have been taken in the Sacramento River as far northward as Kennett, in the Feather River above Oroville, and in the San Joaquin River as far upstream as Polasky. As a table fish they are second to none, and the question of maintaining the supply in the State has received our earnest consideration. In the nineteenth biennial report, considerable attention was called to the advisability of attempting to increase the supply by artificial propagation. The funds of this Commission at that time being insufficient to bear the expense unaided, the subject was taken up with the authorities of the United States Bureau of Fisheries at Washington, with the result that Capt. G. H. Lambson, in charge of the salmon hatching work of the Federal Bureau of Fisheries in California, was instructed to coöperate with this Board. Accordingly, in the month of May, 1907, operations were commenced at Bouldin Island, on the San Joaquin River, at which point a small hatchery building was constructed at the expense of this Commission. A small pumping plant for the purpose of raising water into two tanks of 2,000 gallons each to furnish the necessary amount of water for hatching operations was also installed. The equipment of the hatchery, McDonald hatching jars, were furnished by the United States Bureau of Fisheries. That department furnished three, and this Commission two men, but we assumed the expense of boat hire. During the first season we worked considerably in the dark. There was much to be learned concerning the habits of the fishes; how to distinguish those that were ready for spawning from the immature ones. It was found that by the same methods followed in "stripping" trout and salmon, the eggs and milt could be taken from striped bass, and yet neither the eggs nor milt be sufficiently matured to insure fertilization. The result was many eggs were taken that were apparently ripe, but which could not be definitely determined until after the eggs were placed in the hatchery Our total take of eggs for the first year's operations was upwards of eighteen million, which is about three times the amount of which there is any record that were taken on the Atlantic coast in a single season. The percentage fertilized and hatched, however, was small, and although we met with many discouragements, we were greatly pleased at the results that were obtained from certain lots of eggs. For example, in one lot of nearly 500,000 eggs, 95 per cent of hatch was achieved; in another 81 per cent.

During the past two seasons much attention was given to the movements of the striped bass before and after spawning, to trace the migration of both adult and young fish, which involved considerable exploration work. This, together with the scientific work, was under the direction of Mr. N. B. Scofield, a scientist, formerly of Stanford University, assisted by Mr. George A. Coleman, a biologist of experience. The station was supplied with a sufficient laboratory outfit to carry on a series of scientific investigations and studies, the results of which are shown in the Appendix, together with considerable data on the hatching of striped bass eggs, food of young striped bass, ''Explorations made in connection with the work at Union Island, San Pablo Bay, and tributaries thereto,'' and the general report on the work for the season of 1909–10 by Mr. Scofield.

We recommended the establishment of a close season against the use of nets during the principal spawning months, May and June, but leaving the season open all the year so far as taking these fish with hook and line is concerned. We have been well satisfied with the results that have followed these amendments.

In the line of further recommendation, we would again call attention to the recommendation in the nineteenth biennial report of this Commission as follows:

> Another plan offered to offset the drain on the striped bass industry of this State is the passage of a non-export law, and there is much to be done in its favor. Our streams do not increase in volume; in fact, from the demands made by irrigating systems, it is possible to conceive that they will be reduced. It may then be the part of wisdom to conserve these valuable fishes for the citizens of our own State. Undoubtedly such a recommendation would meet with fierce opposition from the fish dealers in this city and Sacramento, who ship outside of the State thousands of pounds of striped bass each month. We feel that if these shipments may continue without impairment of the industry, and yet not run the local market value of these fish to a prohibitive figure, it would be an unwise move to prohibit their exportation.

Since this report was made the price of striped bass in our markets has reached a figure that is almost prohibitive to the man of small means. To supply the demand of the markets outside of this State we can offer an unlimited supply of a most delicious and valuable fish—the shad.

We believe that if the shipment of striped bass out of the State is prohibited, and the work of artificial propagation further developed, the result would show not only a decided increase in the supply, but a reduction in price to the average consumer of from 25 to 50 per cent.

In the line of distribution, a car load of these fishes ranging in size from 6 inches to 4 pounds in weight was collected in the Straits of Carquinez, at Port Costa, within two miles of where the original plant of bass was made twenty-seven years ago. They were transported without loss of a single fish to southern California and distributed in suitable waters of limited area in Orange County. This being the third shipment made into these waters in the past eight years, it should be sufficient to determine beyond all question their adaptability to the conditions found there. The natural range in this State seems to be from Monterey Bay northward as far as the mouth of Russian River, in Sonoma County.

THE TROUT LAW.

The opening date for the taking of trout was changed at the thirty-seventh session of the legislature from April 1st to May 1st. As compensation, the open season was extended two weeks from November 1st to November 15th, giving an open season of six and one half months. It applied to all varieties of trout except the steelhead, which could be legally taken, beginning April 1st, in tide water; but during the thirty-eighth session, the tide water restriction was removed, so they may be taken wherever found, beginning April 1st. While this has led to some confusion as to the identity of a steelhead, we believe that in the main the change has met with favor. Practically all the fish in our coast streams are of the steelhead variety. Under normal conditions the larger fish by the 1st of May have nearly all gone to sea or are hovering around in the deep pools from which they have easy access to the ocean when necessary to go there for food and protection. With the season opening on April 1st, thousands of our people who can not afford the expense of trips into the higher mountains would lose their only opportunity to catch trout, therefore we are not inclined to recommend any change of the opening date, as applied either to the steelhead or other varieties. We are, however, strongly of the opinion that six months of open season on all trout, except steelhead, beginning May 1st and ending November 1st, is ample and more liberal than any other state in the Union. Many eastern states grant only a three months' open season. Long before the 15th of November all genuine anglers have left the higher altitudes, and no sportsman really desires to take trout after that time, the exception being the market fisherman, the legality of whose operation can always be questioned. He fishes from the beginning of the season to the end, and takes advantage of every loophole in the law. Fish that happen to be of legal size are sent to market, everything under a pound in weight is disposed of through evasion or subterfuge. The two weeks now allowed in November simply give an additional opportunity to the market fisherman to deplete the streams when the fish are easily taken with bait. We, therefore, feel that the best interests of most of our people will be served by closing the general trout season on November 1st.

During the past two years efforts have been made in the direction of raising trout artificially for market purposes. Enough has been accomplished to show that a new and profitable industry can be created in this State if an exception is made in the general law on trout in favor of those raised by private enterprise, by reducing the weight limit or size at which they can be legally sold. In a number of states in the Union—Utah, New York, Massachusetts, and Washington—it has developed into a profitable business. We believe in encouraging similar effort in our State. It would enable citizens and taxpayers to engage in a legitimate industry and supply with trout not only hotels and restaurants but the general public, without any drain whatever on the streams. This would in a short time, we believe, permit of a non-sale law on wild trout—a measure greatly desired by all anglers, as well as thousands of others who are not known as sportsmen, and yet enjoy their summer outings, provided the supply of trout in the mountain streams is maintained, which is almost impossible so long as the market fisherman has some shadow of legal excuse to ply his vocation. We believe our State offers excellent opportunities for the establishment on legitimate lines of such enterprises, which would mean the establishment of new industries, new avenues for profitable labor, with benefit alike to the angler for sport and those whose only opportunity to acquire trout is by purchasing them in the markets. We believe that the experience of other states would be a safe guide for us to follow, with regard to size and other restrictions that should be placed on the handling of trout raised in captivity to properly distinguish them from the wild trout of the streams and lakes.

TAHOE AND TALLAC HATCHERIES.

Since the last detailed biennial report of this Commission was printed important improvements have been made at these stations.

For several years we have had difficulty in getting a sufficient amount of good water to operate the Tallac Hatchery, besides which, its location was always a drawback, consequently a change was deemed advisable. After examining several sites offered by Messrs. Comstock and Lawrence, it was finally decided to locate the new hatchery on Taylor Creek at a point less than one half a mile above the spawning station. This creek, which furnishes our main source of supply of cut-throat trout eggs, is also the outlet of Fallen Leaf Lake, which will guarantee our water supply.

We were fortunate in securing a ten-year lease from the late Mr. E. J. Baldwin for three acres of ground, more or less, with water rights sufficient to operate the hatchery. The advantages of this location are many. In the first place it avoided hauling the eggs some three miles from the spawning grounds by sled over the snow to the old hatchery site, at which point there were no accommodations for the men. After the new site was decided upon, proper surveys were made and a concrete dam 75 feet long was placed in Taylor Creek to divert water into an iron pipe line, approximately 900 feet long. This pipe line was put underground and only emerges to the surface when the settling tank is reached. A building 40 by 70 feet, resting on concrete foundation, was then erected. Following the suggestion of Superintendent W. H. Shebley of our Sisson Hatchery, a radical departure was made in the arrangement of troughs. Instead of having a head trough on one side or end of the building, two head troughs were placed—one on each side of the building—permitting an aisle through the center.

The abundance of water permits each trough to be fed separately, and overcomes the disadvantages of having one feed into another—conveying excrement and possible disease into the lower one. The building was very solidly constructed, shingled overall, and forty troughs were installed, which give a capacity of about three million eggs, as against a million in the old hatchery. The total cost of this station complete was $3,534.00, which included all the labor and material used in its construction. It was paid for out of the fish commission fund. In the fall of 1909 a four-room cottage for the men was constructed in the enclosure of the hatchery grounds, at a cost of $750.00. This work was economically and substantially done. We believe for its purpose a more complete hatchery station can not be found.

At the Tahoe Station important improvements were also made. The foundation under the hatchery, which had done duty for many years, was taken out and entirely renewed, new porches added to hatchery and superintendent's cottage, and material ordered for new troughs, flooring, and an iron pipe line, to take the place of the old wooden flumes. The latter had been a menace for years, and permitted the escape through leakage in various ways of sufficient water to seriously curtail the output of the station. By the installation of this iron pipe line with laterals and small concrete dams at the various springs, shutting off the underflow, we expect to increase the water supply fully one third, which will permit of a substantial increase in the hatchery output as the demands justify.

The average number of cut-throat eggs taken from Taylor Creek for several years was about three million, our operations being limited to the capacity of the three stations—one and a quarter million to fill Tahoe Hatchery, a million for the Tallac Station, six hundred thousand to the Glen Alpine, and the remainder being distributed between Wawona, Sisson, and Ukiah hatcheries. For the season of 1910 the take was the largest ever made, being about 6,150,000 eggs—all taken from Taylor Creek.

This result furnishes an unanswerable argument to the criticism that is sometimes made, that the artificial propagation of fish is not a success. Eighteen years ago with a skillful force of men operating on sixteen creeks emptying into Lake Tahoe, from March 5th to August 15th, more than five months, the total take of eggs was 600,000, while in the present season operating on one creek only from March 27th to May 6th in less than six weeks our men collected upwards of six million eggs.

The Tahoe, Tallac and Glen Alpine hatcheries furnish all the cut-throat fry that can be distributed to advantage throughout the Tahoe and Truckee basins. In addition to Lake Tahoe, Independence, Donner and Webber lakes, a number of smaller ones on the western slope of the Sierras in the vicinity of Cisco receive their supply of cut-throat fry from this source.

All of the fish cultural operations in the Tahoe basin have been under the skillful supervision of Mr. E. W. Hunt, whose reports in brief will be found in the Appendix.

WAWONA HATCHERY.

Following the usual custom, this hatchery, which is located just within the confines of Yosemite National Park, has been successfully operated during the spring and early summer months for the past four seasons under the careful direction of Mr. M. L. Cross, one of our experienced and capable hatchery men. We have hatched and distributed from that station approximately 350,000 trout fry per year, the large majority of which were of the cut-throat variety, the eggs having been taken and shipped from Lake Tahoe. We have also shipped in rainbow eggs from Sisson, and Loch Leven fry, which were distributed in suitable waters.

In addition to the distribution made by Mr. Cross, in which he received the cordial support and assistance of Washburn Brothers, of Wawona, Major W. W. Forsyth, acting superintendent of the park, has borne an important part. A number of new lakes and inaccessible streams were stocked by United States soldiers, acting under his direction. He has also provided suitable conveyances to meet our fish distributing car at El Portal, and hauled the fish from that point into Yosemite Valley and from there distributed into lakes and streams rainbow, Eastern brook, and Loch Leven trout, sent in from the Sisson Hatchery.

That all this work has been intelligently performed is evidenced by the fact that practically all the lakes and small tributary streams are now teeming with fish, and it has been suggested by those most familiar with the conditions that our efforts in that direction be discontinued, and for the next two years be given solely to stocking Merced River and its larger tributaries.

In order to increase the present supply of trout in the main valley, Major Forsyth has prohibited fishing in its stream for one year—in the mean time stocking it heavily, with the hope of increasing its attractiveness by giving better fishing to the average angler, which result we believe will be accomplished when the present restrictions are lifted.

The Wawona Hatchery has also furnished fry sufficient to stock the head waters of the principal trout streams in Madera County, and also portions of Fresno County. This work was taken in hand by the Madera Sugar Pine Lumber Company, under the direction of Mr. Porter C. Thede, and Mr. W. B. Day of North Fork, and men of the United States Forest Service.

During the season of 1909 this station was visited by Commissioner Van Sicklen and Chief Deputy Vogelsang, to determine if it was feasible to change the source of water supply from the creek to the river. After giving the matter full consideration it was decided to build a new flume on the old site, and install a larger and more improved sand-box to take care of the débris, and orders were issued accordingly.

EEL RIVER SALMON AND STEELHEAD HATCHERY.

This valuable fish cultural station, located on Price Creek, one mile from its confluence with Eel River, in Humboldt County, continues to grow in importance every year, and fully justifies the forethought of our predecessors.

In our nineteenth biennial report we quoted extensively from the report made by the late W. A. Wilcox, statistician of the United States Bureau of Fisheries, Washington, D. C., showing by actual figures the remarkable increase in five years of the number of pounds of fresh salmon shipped from the port of Eureka following the establishment of this hatchery. The results are so apparent that practically all of the people of Humboldt County are now firm believers in the value of artificial propagation, and have, by petition presented through the federated commercial bodies of Humboldt County, requested that this hatchery be enlarged to double its present capacity.

A committee composed of representative men was appointed on October 19, 1909, to make a thorough investigation of the matter and submit a written report of its findings. This committee was named as follows: W. P. McIntyre, Fortuna, chairman; Theo. Van Duzer, Loleta; R. S. Fennaty, Ferndale; Brouse Brizard, Arcata.

A most interesting and intelligent report was made, submitting an estimate of the proposed improvements as $2,000.00. As to its reasons for asking this increase, we quote from the report:

> The amount of fish caught in Eel River and sold as an article of commerce for food supply was only about 300,000 pounds annually in 1899 and 1900, and of a value of less than $10,000.00 for either year. These amounts had been much surpassed in preceding years, but the stream had apparently been nearly fished out. But

beginning in 1901 (four years after the hatchery was established) the amount of fish caught increased very rapidly, so that for the five years 1903-7, inclusive, the annual average of shipments was over 3,000,000 pounds and the average annual value over $90,000.00. Much of this increase is attributed, both by sporting and commercial fishermen, to the gradually increasing effect of the hatchery output. And it is argued that an increase in the capacity of the hatchery will still further increase the supply of fish, and thus allow an additional number to be caught each year. And it is further desired to have some of the output placed in Mad River, so as to increase the supply in that stream, which is a small factor in the commercial production of fish, but a considerable one from the sportsman's standpoint.

Also, if the capacity of the plant be increased as requested, it would give an opportunity to handle more steelhead fry, which is greatly desired by the sportsmen fishermen. And on occasion, if the eggs could be procured, it would be very desirable to hatch out trout to replenish the smaller fishing streams of Humboldt County now pretty badly fished out.

For these reasons, and because of the comparatively small cost of the proposed increase in size of plant, we trust your Commission will give this matter your prompt and favorable consideration.

Respectfully,

[Signed.] W. P. McIntyre, Chairman,
For the Committee on Increase of Hatchery.

In our opinion this request should be met on this showing, which is further confirmed by the report of the Eureka Harbor Commission.

As a salmon hatching and distributing station it has no superior, being situated less than 20 miles from salt water, which removes to a great extent the dangers to which young fry are exposed in the passage through fresh water to their natural home, the sea. On the other hand, we do not consider the station so well located for the capture of steelhead in spawning condition, as the main runs of the fishes when passing the mouth of Price Creek are yet too green to be spawned. This has been clearly demonstrated by our experience in former years, when our men captured hundreds in Eel River by means of seines; attempts were also made to hold fish in live-cars taken 25 miles farther up the river, but the results did not justify the expense.

During the season of 1910 a shipment of steelhead eggs, 200,000 in number, taken at the dam of the Snow Mountain Power Company on the South Fork of Eel River in Mendocino County about 100 miles inland, was made to this station via Ukiah, thence by rail to San Francisco, carried by steamer to Eureka, and again shipped by rail to Alton. These eggs arrived in good condition, all things considered. (Note report of Superintendent Fassett.)

By continuing the egg-collecting station on the Snow Mountain Power Company's dam, which possesses unusual advantages for taking a large number of steelhead eggs, we could add greatly to the output of the Eel River Hatchery. Another opportunity to contribute is presented by the fine station on Scott Creek, in Santa Cruz County, which is improving yearly. When the railway now building northward from Sherwood towards Eureka is completed, it will be comparatively an easy matter to ship in 1,000,000 eyed steelhead eggs from the Snow Mountain stations, which may also furnish a supply of salmon eggs.

For these reasons we are heartily in favor of enlarging and improving the Eel River Hatchery.

Much credit is due the superintendent, Mr. W. O. Fassett, who with a small force has not only kept his station in an excellent state of repair, but made many improvements. He has also handled the important fish cultural work intrusted to him with marked success. His reports on both salmon and steelhead work for the past two years will be found in the Appendix.

SCOTT CREEK STATION.

This important steelhead egg-collecting station is located on the creek of the same name in Santa Cruz County, at Swanton. It was first established by Mr. Frank A. Shebley, the efficient Superintendent of the Brookdale Hatchery. Scott Creek is one of several streams in the county where a considerable number of steelhead eggs can be collected at comparatively small expense. This one possessing some advantages over the others, Mr. Shebley, with the approval of the county board of supervisors, built a concrete dam across this creek, with a fishway and trap connected, through which the fish would be diverted into a retaining pond, in which they are held until ready for spawning.

Two years ago a request was made of this Board to assume a part of the expense of operating the Brookdale Hatchery, in return for which a sufficient number of eggs or fry were to be furnished for distribution into neighboring counties, San Mateo, Santa Clara, and Monterey. After due consideration of the matter, and investigating the possibilities, an agreement was entered into between this Board and the supervisors of Santa Cruz County, wherein such privileges on Scott Creek as had been acquired by the supervisors were made over to the State, which in turn should assume all expense of its operation and improvements. In order to avoid the expense of operating on several streams and yet collect all the steelhead eggs we would require, a five-year lease was made for a strip of land 200 feet in width, being 100 feet on each side of the middle line of creek where the stream passes through the land owned in common by A. Gianone, William Purdy, Kate Purdy, and Amy Arano, for a fixed consideration per year, depending upon the amount of the holdings. With the Ocean Shore Railway and the Shore Line Investment Company, who were the principal owners of the lands abutting the stream, a yearly lease was made through Mr. J. Downey Harvey, president of these companies and a former member of this Board. Notices were then posted closing the stream to all fishing for a distance of about six miles from its mouth. The concrete dam was enlarged and strengthened, a new trap put in position last year, and this year $500.00 was appropriated for additional improvement in the shape of a concrete retaining pond.

Scott Creek Spawning Station, Santa Cruz County.

Snow Mountain Power Company Dam and Fishery, South Fork of Eel River.

The collections for this season were 2,182,000 steelhead eggs, of which 320,000 were sent to Sisson, the fry from which are used to stock coastwise streams in Santa Barbara, San Luis Obispo, and Ventura counties; about 200,000 were sent to the Marin County Hatchery, and 100,000 shipped to the United States Bureau of Fisheries Station at Oregon City, Oregon; the remainder, except 200,000 hatched at Spawning Station and returned to Scott Creek, were hatched in the Brookdale Hatchery, which, together with the salmon eggs collected, made a grand total of 3,582,000 eggs of all kinds. Three fourths of the fry were distributed in the waters of Santa Cruz County; the balance were distributed between the counties of San Mateo, Santa Clara, and Monterey. The proportion of the total operating expenses borne by the State approximates two thirds, which is paid out of the fish and game preservation fund.

We beg to express our appreciation of the never-failing courtesy of the county board of supervisors, especially of Mr. Ralph S. Miller, who acted as a committee of one on matters pertaining to the hatchery; and in all matters pertaining to the advancement of the fish and game interests we have had the cordial coöperation of Mr. Miller.

Mr. Shebley has carried on successfully some very interesting work in the line of hybridization, and succeeded in establishing a cross between the female steelhead trout of the coast streams and the male Lake Tahoe trout—a fish that we believe will prove of inestimable value to the waters of Lake Tahoe, Independence, Webber, and Donner lakes, as this cross seems to produce a fish retaining all the fine food qualities of the trout of the mountain lakes, combined with the well known gamy qualities of the steelhead.

Some important scientific work has been carried on for the past two years by Dr. C. H. Gilbert of Stanford University in the interest of the United States Bureau of Fisheries, in which he was assisted by our Mr. C. A. Reed.

EASTERN BROOK TROUT.

As will be seen by comparison with the reports of 1900 only 6,000 fry of this variety were turned out by our hatcheries in that year. The output for the past three years has been in excess of one million per year. These fish have shown remarkable adaptability to small lakes and meadow streams of the high Sierras. In order to satisfy the demands we have made some plants in considerable numbers in Coast Range streams, but no appreciable results have been manifest; on the other hand, at all elevations above three thousand feet and up to eight and nine thousand splendid results have followed, which the people in the mountains are not slow to realize; consequently there is an increasing demand, and as new lines of transportation have enabled us to reach heretofore inaccessible sections, we believe every effort should be put forth to meet it. This beautiful fish finds a congenial habitat in waters where neither the rainbow, cut-throat nor Loch Leven trout will remain. The cut-throat prefers the calm waters of a lake altogether, while the rainbow is essentially a fish of the swift-running streams of large volume. Both the Eastern brook and Loch Leven possess a decided advantage over our native fishes with reference to their breeding habits. They mature one year earlier, and are known as "fall spawners"; that is, they seek the spawning beds the latter part of October and November. That being a time when the summer tourists and stockmen have left the mountains, they can perform that function of nature unmolested, consequently we believe through natural propagation a larger percentage of eggs are fertilized and hatched than of the native fishes. During the past two years, in addition to renewing the plants made in previous years in sections where the fishing had been heavy, substantial plants have been put into barren waters beginning at a point as far south as the Giant Forest region in eastern Tulare County and extending northward to Siskiyou County.

Through an exchange for the eggs of cut-throat trout, we were able to procure 5,000 of these fish ranging from four to eight inches in length, from Messrs. Morrill and Denton, at Verdi, Nevada, of which number about one half were sent to our Sisson Hatchery to cross with our pond fish, with the view of bringing together unrelated stock and overcoming the effects of interbreeding. The remainder were planted in Donner Lake, a magnificent body of water, but with no well defined inlet that could afford a spawning ground for cut-throat or rainbow trout, but which has weedy shoals and sandy beaches suitable for the Eastern brook. We hope to make this one of the banner lakes of the Sierras for these fishes.

We have also been able to stock liberally suitable waters with both Eastern brook and Lock Leven trout in Inyo County, a region heretofore neglected through lack of transportation facilities. Our fish distributing car has made two trips in the past two years to that section of our State, carrying in a liberal supply of rainbow, Eastern brook, Lock Leven trout, and also substantial plants of black bass. We have found Inyo County has waters specially adapted to all these varieties, besides it is rich in game, and will undoubtedly soon be known as a "Sportsman's Paradise," which title it already deserves. The people generally are most appreciative of our efforts and have shown unbounded hospitality to our representatives. Public sentiment being so strongly developed in favor of fish and game preservation, we have sent in a liberal supply of pheasants and Hungarian partridges, that were distributed in different sections of the county and from which excellent reports have come, showing a substantial increase in the wild state, which indicates the adaptability of these rare game birds to that section. The fish and game interests of the county have been carefully and intelligently cared for by our deputy, Mr. E. H. Ober, and his efforts ably seconded by Sheriff Naylor, the board of supervisors of the county, and the Owens Valley Chamber of Commerce.

LARGE-MOUTH BLACK BASS.

Considerable space was devoted to the importance of these delicious food and game fish in our nineteenth biennial report. We quoted the opinion of some of the oldest fishermen on the Sacramento and San Joaquin rivers to the effect that in a few years these fish would be as plentiful as carp. While we anticipated a substantial increase, we hardly expected such wonderful results as have been accomplished.

We believe that California to-day is one of the best stocked states in the Union. The rivers, streams, and sloughs throughout the Sacramento and San Joaquin valleys are teeming with them. There is scarcely a suitable reservoir or lake below the range of trout in which a fine day's sport can not be had. Lakes and sloughs tributary to Owens River in Inyo County have received substantial plants during the past two years, and a gratifying increase has been noted. Their range in this State is practically unlimited, so far as a northern or southern latitude is concerned. Their introduction into Clear Lake, Lake County, a number of years ago has proven to be a decided success. While they could be seen in considerable schools it has only been in the past three or four years that a sufficient number could be caught to make the sport worth while. The explanation for this would seem to lie in the fact that there was such an abundance of food supply in the shape of small native fishes and young carp that the ordinary angler's lure would not attract them. In the past two years experienced anglers who have fished in nearly every state in the Union report to our office that the black bass fishing in Clear Lake exceeded anything in their experience.

As an exchange of international courtesy, a car load of these fish was captured in Fresno and Kings counties by Deputy A. D. Ferguson, assisted by Deputies Ellis and Smalley. These fish were taken in the latter part of December, 1909, and transported in our fish distributing car to two points in the Republic of Mexico. There were 1,800 adult fish in the shipment; three fourths of them were planted under the direction of Governor Ahumada, in Lake Chapala, a body of water 60 miles in length with an average width of 10 miles, in the State of Jalisco. The remainder were planted in a small lake designated by Governor Landa of the district of Mexico, near the city of Mexico. The first liberation of the fish did not occur until the tenth day after their capture, and yet so skillfully were the fish taken and handled en route there was a loss of but two fishes, and these lost their lives by jumping out of the cans while in transit.

This tender to the Mexican Government was made in exchange for the wild turkeys that we have procured from that country, and which are now flourishing at the State Game Farm. Every courtesy and extreme hospitality was shown to Mr. Requa, in charge of the car, and his four assistants by the Mexican officials.

Another long distance shipment of more than ordinary interest was made at the request of the United States Bureau of Fisheries at Washington, D. C., when 140 large-mouth black bass, ranging from 5 to 8 inches long, were sent to the Philippine Islands. The fish were taken with hook and line by Deputy M. L. Cross from the Daly reservoir near Folsom, Sacramento County, and delivered to Alvin Seale, representing the Washington authorities, on board the United States army transport *Sherman.* Careful preparation had been made, a circulating pump arranged to keep the fish supplied with fresh water at all stages of the long journey, and ice supplied when necessary. Thirty-four days were occupied in making the trip, during which time but 22 fish were lost; the remaining 118 were planted in good condition in a lake of considerable size, which in the judgment of Mr. Seale is well adapted to their requirements. Our State, in addition to furnishing out of its abundance a new and valuable fish to the Philippine Islands, has also given to New Zealand the quinnat salmon and rainbow trout.

During the past three years many black bass, also striped bass, have been rescued from overflowed islands in the San Joaquin delta and in the vicinity of Sacramento. In the San Joaquin district thousands of these fine food fishes were taken either by our own men or by trustworthy fishermen acting under written permission and returned to living waters. In return for the work which involved damage to nets and gear, as well as time, the fishermen were allowed to retain all striped bass weighing 3 pounds and upward, all under 3 pounds and all black bass being placed alive in waters connecting with the main river. The black bass taken around Sacramento were captured by Deputy George Neale, and enough retained to fill applications throughout the State, the remainder being placed in small lakes and other suitable bodies of water in Sacramento County. In the Fresno-Kings section of the San Joaquin Valley, where black bass were first planted in 1895 and 1897, they have shown remarkable increase. Some conception of the numbers to be found in that region may be formed when it is shown that this Commission, through its branch office at Fresno in 1909, took out and returned to living waters some half million live bass of all sizes, mostly small, which had been stranded or cut off from the main rivers by receding floodwaters. Experienced and careful observers report a remarkable decrease in the numbers of carp, proportionate with the increase of black bass, to which voracious fish the young carp fell easy prey.

Requests have been made by market fishermen and some of the dealers asking that the law be amended to permit of the capture of black bass with nets or seines. In our opinion such legislation would be most unwise. Black bass travel in schools, and it would be possible to wipe out the entire supply in any given body of water if such operations were made legal. Besides, so long as the present restrictions exist permitting them to be taken with hook and line only, a far larger number of our people, especially those living in the country, derive food, profit, and pleasure by capturing them in accordance with the existing law. We would, therefore, recommend that no change be made.

SHAD.

This valuable food fish continues to be found in great abundance throughout the Sacramento and San Joaquin basins, and the principal streams tributary to these rivers, also in Suisun, San Pablo, and San Francisco bays. No necessity has yet arisen for any restrictions as to their capture, except the one referring to size of mesh with which they can be lawfully taken. This restriction, however, was not intended to apply to shad, except in a limited degree, but is intended for the protection of the striped bass and salmon. Without it, market fishermen could with perfect impunity operate during the close season on the plea that they were trying to catch shad, and accidentally caught salmon or striped bass during the prohibited time or with unlawful seines. This in itself would not be serious were it not that the average market fisherman never releases anything that comes into his net, and would take a chance upon finding some way to smuggle it into the market. It is a remarkable fact that while the shad is considered the most valuable river fish of the Eastern States, our people have yet failed to appreciate its good qualities. There is no question as to the quality of the fish, which when properly handled is equal to the best taken anywhere in the world. The principal cause for complaint is because "it is so bony." During the past two years we have seen large catches aggregating 800 pounds made by two fishermen on a single drift, which contained specimens weighing ten pounds, but owing chiefly to the limited demand the price paid to the fishermen ranged only from one half a cent for males to two and one half cents per pound for the females, the additional price being added for the "shad roe." In our nineteenth biennial report we suggested that in order to create a better market for shad, the exportation of striped bass from the State be prohibited. Such a law, we believe, would result in exporting thousands of pounds of shad into Nevada, Utah, Colorado, and Arizona, that are now taking our striped bass, and tend to reduce the constantly rising price paid by our own people in this State. We again earnestly recommend that this matter be brought to the attention of the legislature at the forthcoming session.

A brief history of the shad, we believe, is worthy of repetition. The first plant aggregating 50,000 fry was brought from the state of New York from the state hatching works on the Hudson River at Castleton by Seth Green, recognized as one of the pioneer fish culturists of this country. They were planted in the Sacramento River at Tehama on June 27, 1871, which was followed by other plants in 1873, and the last one in 1881. A bonus of $50.00 was offered for the first shad to be taken in the waters of our State, and that was paid in 1873. In 1874 sixteen full grown fish were taken at Vallejo. Since that time they have become so firmly established and are in such abundance that we believe that the declining shad industry of the Eastern States can be renewed and replenished by obtaining a supply of shad eggs or fry from California.

CATFISH.

The catfish is another important food fish that has shown remarkable development in this State. The first plants introduced here came from the Schuylkill River, Pa., and from the Missouri River at Omaha, Nebr. This gave us two varieties of catfish. Both were planted in the San Joaquin River near Lathrop. They have been transplanted into other sections of the State until there is scarcely a stream or slough in the Sacramento or San Joaquin valley that does not contain them in great abundance. The sale for them, however, in the San Francisco markets is somewhat limited, and they are purchased principally by the Chinese. On account of their excellent food and shipping qualities, tons of them are sent out of the State every week, principally from Sacramento, from which point they are shipped south to Arizona, northward to Oregon, and eastward as far as Kansas City. Previous to the last session of the legislature there had been no restrictions upon their capture, but owing to the increasing markets outside of California and the excellent price this drain was greater than the natural increase would warrant, and the fishermen began to take the smaller ones by reducing the size of the mesh of their fyke nets, by which they are principally caught. At the request of the principal fish dealers of Sacramento, a recommendation was made that the minimum size at which catfish could be sold was eight inches, applying to dressed catfish. This became the law, and with a slight amendment in its phraseology will, in our opinion, be all the restrictions required. Market fishermen operating around Bouldin Island in the San Joaquin River claim that through the workings of this law it has reduced the sales from one half to three fourths, but while this law creates a temporary hardship among those who follow that mode of fishing for a living, it will in a couple of years, in our opinion, regulate itself.

STURGEON.

For about ten years an absolutely close season has existed against the taking or possession of fresh sturgeon. This law was passed with the hope that these fish would show an increase. The results have not been encouraging. Various theories are advanced, the principal one being that in the waters in which sturgeon were once in great abundance, striped bass and black bass—two types of voracious fishes—are now found, and it is believed they feed largely upon young sturgeon or sturgeon eggs. In certain sections of the Sacramento and San Joaquin rivers large specimens are still found. They are a menace to the fishermen's nets, frequently becoming entangled in them and creating considerable havoc, with the result that every sturgeon caught in a net was killed, and the bodies of these large fish were found along the rivers. In order to prevent this needless waste of a very excellent food supply, a law was enacted at the thirty-eighth session of the legislature making it an offense to kill or have in possession any sturgeon weighing less than 25 pounds. Fish under that size can pass through the salmon nets and need not be taken or destroyed. It gave an opportunity, however, for the fishermen to capture and sell any sturgeon weighing 25 pounds or more. As specimens weighing over 100 pounds are frequently taken, we believe that some good is being served and no real injury inflicted upon the sturgeon supply of this State.

ABALONES.

During the past three legislative sessions various changes have been made with respect to the taking and possession of abalones and abalone shells, referring also to size and method of capture. The existing law prohibits the taking of the black and green abalone of any size at any time, but permits the abalone known to commerce as the red abalone (*Haliotis rufescens*) measuring not less than seventeen inches around the outer edge of the shell to be taken at any time. The red abalone has a distinct food value, the broth being especially valuable in the sick room. Under this law one or more abalone canneries are operated, and the product is sold largely throughout the United States. On the other hand, the shell of this variety has but little commercial value, whereas the shell of the black and green abalone has a very considerable value, being used in the manufacture of abalone jewelry, for which there is a large and constantly increasing demand. When this law went into effect there was in the possession of dealers and manufacturers a large stock of black and green abalones that had been legally taken and was not worked up. Under a liberal construction of the law, jewelers and other manufacturing establishments were permitted to work up the old stock, which is now practically exhausted. Unless some amendment is made to the present law it will result in putting out of business a number of manufacturing establishments employing white labor in this State.

The real purpose of the law was aimed at the aliens, Japanese and Chinese principally, who were taking them by the ton without regard to size by the aid of diving suits, removing the meat from the shell in the water, bringing it ashore, where it was dried and shipped either to China or Japan. We believe the use of diving suits should be permitted, as there are apparently inexhaustible beds of red abalones along our southern coast, which can not be profitably taken in any other way, and the law should be amended so that both black and green abalones can be taken and possessed at any time, the former not to measure less than twelve and the latter less than seventeen inches around the outer edge of the shell, but prohibiting absolutely the shipping of dried abalones or unmanufactured shells out of the State. Such a law would not only permit the canneries to operate, put up their catch and dispose of it, but would furnish a sufficient stock of shells of all kinds for use of local manufacturing establishments, whose combined demands would not be one twentieth part of that made in shipping dried abalones and shells out of the State. Legislation along these lines would be fair, just, and, we believe, produce the desired effect.

CRAWFISH, OR SPINY LOBSTER.

In our nineteenth biennial report and again in our preliminary report of 1907–08 we recommended that a close season of two years be established on this, one of our most important shellfish, which began to show signs of possible extermination. The matter was presented to the legislature, and after much discussion a law was enacted establishing an indefinite close season, but permitting crawfish measuring not less than nine and a half inches, but taken without the waters of this State, to be sold in our markets under restrictions which were to be prescribed by the Board of Fish Commissioners, and provided further that the expense of such inspection and marking "shall be borne by the person or persons importing such lobster, or crawfish." It was represented to the legislature that crawfish were to be found in great abundance in Mexican waters, and a company had been organized to propagate them extensively on the coast of Lower California. This law has worked satisfactorily. The only port of entry for Mexican crawfish is San Diego, where a representative of the Fish Commissioners meets every incoming shipment, and checks up and marks each individual specimen. This plies the markets of Los Angeles and other southern cities and permits a considerable number to be sold in San Francisco. We believe this law should remain in force at least two years longer, by which time there should be a sufficient increase to permit of their being again taken under certain restrictions yet to be determined upon in our waters.

CRABS.

In our preliminary report submitted during the thirty-eighth session of the legislature we recommended a change in the law relating to the seasons for taking of crabs, opening the months of September and October, and establishing in lieu thereof a close season of four months extending from the first of November to the first of March of the following year, which recommendation was favorably considered by the legislature and enacted into a law. While this law has some advantage over the other, we are firmly of the opinion that sufficient protection is not yet accorded to this, one of the most delicious crustaceans to be found in any part of the world. We find that through extensive fishing the large crabs have been practically exterminated on the principal fishing grounds, and believe that the surest way to restore the supply would be by establishing a close season of two years. In point of numbers the supply does not seem less, but three fourths of the crabs found in the markets do not average over six or seven inches across the back, and it requires at least three to furnish the same amount of crab meat as is produced from an eight or nine-inch crab. An absolute prohibition against their catching for a term of two years would enable small crabs to attain a respectable growth. If it is not deemed advisable to establish a close season for that length of time, we would urge that their capture be prohibited for at least six months of every year, beginning with the first of October and ending on the first of April, and at the same time raising the minimum size from six inches to not less than seven and a half. This would, however, have the effect of making the price of crabs almost prohibitive, which in turn would be an inducement for the alien fishermen to smuggle in the smaller ones and dispose of only the "crab meat." Such a law would be difficult of enforcement, as it would be almost impossible to get conclusive evidence as to size or sex, and would also encourage the capture of the female crab. The better way in our opinion to bring about the desired result, with fairness to all, would be in the establishment of a two years' close season.

THE SHRIMP LAW.

To take shrimp without taking and destroying an unreasonable number of small fish continues a difficult problem, as shown by the list of arrests and fines. The Chinese fishermen have been fined for violations of the shrimp law during the past two years the sum of $4,325.00, this being the largest amount for violation of any section of the Penal

Code relating either to fish or game; notwithstanding which their harmful methods of taking shrimp show little or no improvement. At the last session of the legislature a close season of three months—June, July, and August—was established, with the hope that this interruption in the work would close up the camps and cause the experienced crews to leave for other employment, so that when the season opened again there would be difficulty in getting trained hands.

We had confidently believed that the law prohibiting the exportation of dried shrimp and shrimp shells out of the State would be a restriction sufficient to put out of business practically all of the boats, except those engaged in the capture of shrimps for consumption in the fresh state, and that number of boats, 5 or 6, could not affect seriously either the supply of shrimps or young fish and could easily furnish all the fresh shrimp that can be consumed in this State. After observing carefully the workings of the present law, we are convinced that a better and more positive way to stop this drain on the fish resources of San Francisco Bay can be accomplished either by establishing an indefinitely close season, or by making it an offense for any person to take or have in his possession more than 5 pounds of dried shrimp or shrimp shells taken in the waters of this State. In our opinion, the latter suggestion would be perfectly feasible and produce the desired relief, even to the point of permitting their capture the entire year.

There is no scarcity of shrimp in our waters. They are in great demand by hotels, restaurants, and for private consumption. To limit the possession of dried shrimp to 5 pounds would at once put an end to the extensive drying operations whereby tons of shrimp are handled daily, and which are intended primarily for export. In spite of the fact that tons of Mexican shrimp or prawns are cleared through our office under permit, we find that California shrimp and shrimp shells have been sent to China and other countries labeled "dried fish," "seaweed," "fertilizer," "coffee," or "beans," and not shipped in sacks, but in tightly nailed boxes or barrels.

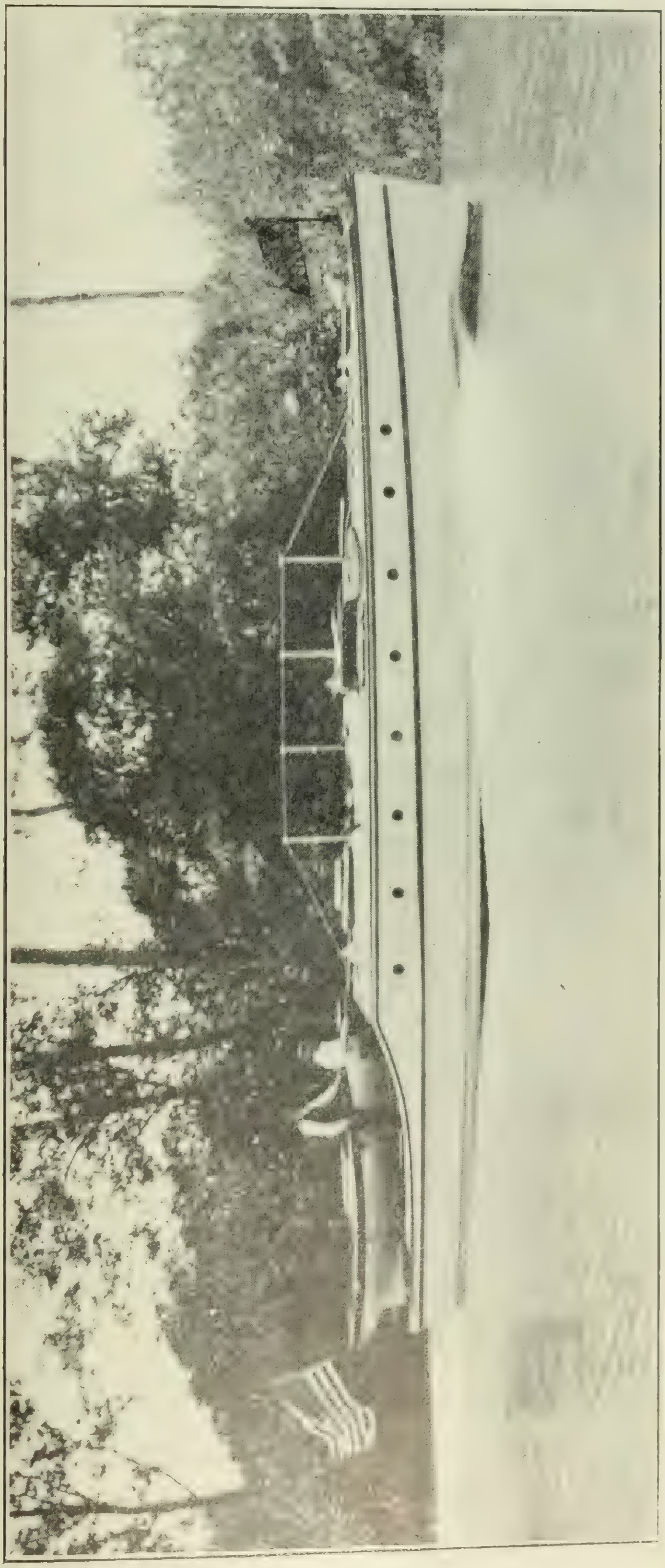
Important seizures have been made, and in some cases substantial fines imposed, but not, in our opinion, commensurate with the gravity of the offense, the result being that the exportation continues in one form or another, indicating there is much profit in the shrimp business, which is carried on exclusively by the Chinese. The dried shrimp are not used by whites, and only a small fraction of the total amount produced is sufficient to meet the demands of the Chinese and Japanese residing in this State. Therefore, our citizens would not be at all disturbed should the drying of shrimp be prohibited altogether and fresh shrimp permitted to be handled as at present.

Undoubtedly some small fish will be taken so long as the use of bag nets is permitted. Should the law be amended prohibiting their use for the taking of shrimp as well as of fish, it would result in finding some other and less destructive method of effecting their capture. This would indicate that it may not be a necessity to prohibit the catching of shrimp. We are, therefore, of the opinion that if the possession of more than 5 pounds of either dried shrimp or shrimp shells be made an offense punishable by a fine of not less than $100.00, trial jurisdiction to be in the Superior Court, the damage to the fishing interests of our bays will be reduced to the minimum without depriving the markets and the people generally of a choice crustacean, which is peculiarly a California delicacy. The suggested changes will be met by strong opposition, as the Chinese are always represented at the legislature by agents or paid attorneys.

NEW PATROL BOAT.

The patrol boat Quinnat, which had been in service for fourteen years, has been replaced by a larger, faster boat of more modern type. The old boat which was 40 feet over all, 7½ feet beam, and equipped was a 22 horsepower "heavy duty" engine, had a draft of 4 feet, which frequently proved a disadvantage when in pursuit of violators, who could escape by running into shallow water with their boats of light draft. The Quinnat had rendered excellent service and was unquestionably for years the best gasoline boat to be found in these waters, with sufficient speed to overhaul any of the fishing boats, but few of which were power boats. At the present time about 30 per cent of them are equipped with gasoline engines.

The method of collecting and shipping the catch of commercial fishes has also materially changed. Formerly the fishermen operating in the rivers delivered their fish at some steamboat landing from where it found its way to the markets through regular transportation channels. To-day all the large fish dealers have fast power boats in which their agents hover around the fishing grounds and buy the fish direct from the fishermen as soon as they are taken from the nets. When a load has been obtained, these boats come directly to San Francisco. It therefore was a necessity to have a boat fast enough to overhaul any other boat in the fishing business. We gave careful consideration to the question of installing a more powerful engine in the old hull, but as that would increase the already excessive draft, and believing that the model could be improved, it was decided to build an entirely new boat on different lines with more speed. In the past few years there has been developed what is known as the cruiser of the raised-deck type, a boat capable of going to sea in almost any weather, and is the successful type used for long trips on the Atlantic between New York and Bermuda Islands, a distance of about 600 miles. From the originators of this model, Whittlesey & Whittlesey, marine architects of New York, we procured the plans and specifications, which were submitted to four well



New Patrol Boat "Quinnat."

known boat-builders of San Francisco and vicinity—John Twigg & Sons, W. S. Brusstar & Sons, H. Anderson, and Wm. Cryer. Twigg & Sons being the lowest bidders, the contract was awarded to them for the construction of a hull to be 46 feet in length, with a beam of 8 feet 9 inches, draft 38 inches, which was 10 inches less than the old boat. Four sleeping berths, a complete galley, a 12-foot tender, and a lavatory were also included in the contract. Later the tender was equipped with a 2 horsepower gasoline engine. The name Quinnat was transferred to the new boat, which was successfully launched on June 5th, and went into commission shortly thereafter. Under favorable conditions the boat will develop a speed of 13 miles per hour, which is furnished by a 40 horsepower engine. The construction of the boat is solid and substantial in all particulars. The interior trimmings are of Philippine mahogany, a wood which is particularly adapted to this climate. It is equipped with electric lights throughout, and carries also a powerful searchlight, which is of great advantage for night work. An entirely new and successful feature of the boat is its controlling device, the invention of a San Francisco concern—Binns & Pagendarm—which enables one man from the cockpit to have complete control of the steering apparatus, the engine, and the searchlight.

Special provision was made for three large fuel tanks, which were located under seats in the cockpit, and carry 240 gallons of gasoline. This gives her a wide cruising radius, and will permit trips being made as far as Monterey Bay, and also to watch the crab fishermen and larger fishing boats which operate outside the heads in the Pacific Ocean. The total cost of the boat and its equipment was $6,500.00, which was met by the sale of commercial fisherman's licenses.

We have also acquired by purchase a fast light draft boat, 25 feet in length, equipped with a 12 horsepower engine, for use in the shallow sloughs around Sacramento to look after market hunters and fishermen. This boat is in charge of Deputy George Neale, with headquarters at Sacramento, from which point it operates northward and to points down the river as far as Rio Vista, paying special attention to the striped bass and black bass breeding grounds, which are embraced in Cache Slough and its tributaries, Lindsey, Prospect, and Miner sloughs. We have also procured from the Gorham Engineering Company of Alameda, in exchange for the old Quinnat, an entirely new 26-foot power launch built on the salmon boat pattern, which can operate in all kinds of weather and has proven to be a valuable auxiliary. Resembling so closely the regular fishing boats, she is able to do not only considerable detective work around the shrimp camps without being observed, but among the market fishermen. She can also be used to good advantage in the shallow sloughs tributary to the San Joaquin River, in the vicinity of Stockton, where shad, black bass, striped bass, and catfish are found in large numbers, and will prove a valuable adjunct to the striped bass hatchery work. These boats, with their complete equipment, have been paid for out of our own funds without asking for a dollar of appropriation.

NEW FOOD AND GAME FISHES.

Through the courtesy of Hon. Geo. M. Bowers, Commissioner of the United States Bureau of Fisheries, there was received in the month of November, 1908, a car load of fresh water fishes adapted to the smaller bodies of water at low elevations.

The car was loaded at the United States Fishery station at Meredosia, Ill., with the crappie (*Pomoxis annularis*), the blue-gilled sunfish (*Bepomis pallidus*). and the yellow perch, commonly known as ring perch (*Perca flaverscens*).

The crappie is one of the most popular of the fresh water fishes found in the markets of Washington, St. Louis, Chicago, and Baltimore. It does not range far north, but is held in high esteem in the Southern States, where it is a great favorite among the anglers. It will take a minnow bait as promptly as will a black bass, but does not make so much of a fight, although it requires considerable skill on the part of an angler to "land him." He is a most excellent pan fish, sometimes reaches the length of about a foot, a prolific breeder, and it is believed will find a congenial habitat in the small lakes and ponds at low elevations in this State. It is frequently called "calico bass," and there is but little difference between them, except that the calico bass is found in more northerly waters.

The blue-gilled sunfish is the best known and most important of all true sunfishes. It is commonly called "bream," and is found in the Great Lakes and throughout the Mississippi Valley. Though sometimes found in quiet streams, it is the sunfish of the lakes. It reaches a length of from twelve to fourteen inches, and maximum weight of a pound and a half. As a pan fish it is excelled only by the yellow perch, the flesh being firm and of a delicious flavor. It is an excellent fish for the angler, and can be taken with almost any kind of bait, or by trolling.

Of the perch family, the yellow perch is most highly esteemed for its fine food qualities. It is not a great fighter for the angler, although it bites well. Its usual length is twelve to fourteen inches, ranging in weight from a half to two pounds, but examples weighing 4½ pounds have been taken. He is essentially a lake fish, but flourishes in large, fresh water sloughs and deep lagoons.

It was believed by the Fish Commissioners that more attention should be given to stocking the smaller reservoirs and ponds and lakes at low altitudes with a pan fish that would afford not only some sport in its capture, but also furnish a food supply.

The fish reached us in good condition, and we had experienced deputies stationed at the different points where the fish were to be delivered so as to insure that they would be handled and planted by competent men.

The first shipment was delivered to E. W. Hunt, at Reno, who carried four cans of the crappie and sunfish to Honey Lake, in Lassen County.

The next shipment, yellow perch and crappie, was planted in Vera Lake, Nevada County, by Deputy Roy Sullaway.

Deputies Geo. Neale and M. L. Cross received allotments of bream, sunfish and yellow perch at Sacramento, which were planted in Plumas Lake, Placer County, and in sloughs of Feather River, near Marysville; also Washington Lake and Brushy Lake, in Sacramento County.

Deputy Roy B. Heacock landed a shipment of the three varieties in suitable waters around Stockton.

Deputy Ernest Schaeffle and Frank McCrea took a large shipment (ten cans) representing all three varieties, and planted them successfully in Clear Lake. Lake County.

Deputy Andy D. Ferguson at Fresno received and planted yellow perch and sunfish in Kings River, Lower Kings, and San Joaquin rivers.

Deputy A. C. Tibbet at Bakersfield received a shipment of sunfish and yellow perch. which were planted in the lower reaches of Kern River and Buena Vista Lake. Other shipments were planted in a small lake near Tehachapi. Kern County. in Russells Lake, Ventura County, and the remainder of the shipment was received by eight other applicants at points in Los Angeles, Riverside, and Orange counties.

The superintendent of fish distribution, Mr. R. W. Requa. joined the Federal car at Truckee and superintended the distribution and allotment of the fish to the various applicants.

It is yet too early to expect definite results, but some specimens of young bream and the blue-gilled sunfish have been received at our office. which were taken in waters of the Sacramento Valley. indicating that they are increasing.

TRANSPLANTING ADULT TROUT IN THE SOUTHERN SIERRAS.

During the past two years special attention has been given to stocking barren lakes and streams on both sides of the higher Sierras in Inyo. Tulare, Kern. and Fresno counties with adult fishes—golden, Kern River rainbow. and Loch Leven trout. The two last named varieties were taken from waters that had been stocked some years before with fry raised at our Sisson Hatchery and which had been transported as far inland as it could be done with safety. The golden and Kern River trout were taken from streams where they are abundant and placed in other waters barren of fish life in the same general locality.

The sum of $1,250.00 was appropriated for the work. which enabled us to equip two pack trains with specially built cans. and other necessary apparatus. Deputy E. H. Ober, assisted by Sheriff Naylor of Inyo County, had charge of the work on the eastern slope, and in the face of many difficulties successfully transferred a large number of golden trout into waters heretofore barren of fish life, but rich in fish food.

District Deputy A. D. Ferguson of Fresno, assisted by Deputy S. L. N. Ellis, directed the pack train work in 1909 and 1910 in the Kern River, Kings, and Kaweah basins on the western slope. Adult golden trout were captured in very satisfactory numbers and successfully transported and planted into Crabtree Fork of Big Kern, North Fork of Kaweah River, and Whitney Creek. Adult rainbow trout were planted in four tributaries of Sugar Loaf Creek and other tributaries to Kings River in 1909. In 1910 Huckleberry Ellen and Spotted Faun lakes, in Tuolumne County, received 1,400 adult rainbow trout. Adult Loch Leven trout were placed in Rock Creek; Loch Leven fry in 18 cans distributed by pack trains in Pitman, Coyote, Red Mountain Bear, Shaver, and seven Dinkey lakes.

Adult rainbow trout were taken and distributed in considerable numbers into South Fork of the San Joaquin above Jackass Falls and four other headwater tributaries of the same stream. Sixteen tributaries of the Kings River, including lakes and streams in Granite Basin, received liberal plants of adult fish. All are ideal trout waters, but heretofore barren of fish life. It is confidently believed that this vast region will in a few years become a fisherman's paradise.

Much credit is due to the officers and members of the Sierra Club, who, under the skillful directions of Secretary Wm. E. Colby, have at their own expense, but under the authorization of this Board, successfully transplanted during the past two years more than 400 adult golden trout in the vicinity of Mount Whitney.

In July and August, 1910, more than 1,800 large golden trout of the two varieties were taken with hook and line by our deputies and distributed among 23 lakes and streams in which no fish have heretofore existed. In suitable places—meadow streams—seines were used to take the fish, but by far the larger number were taken with hook and line.

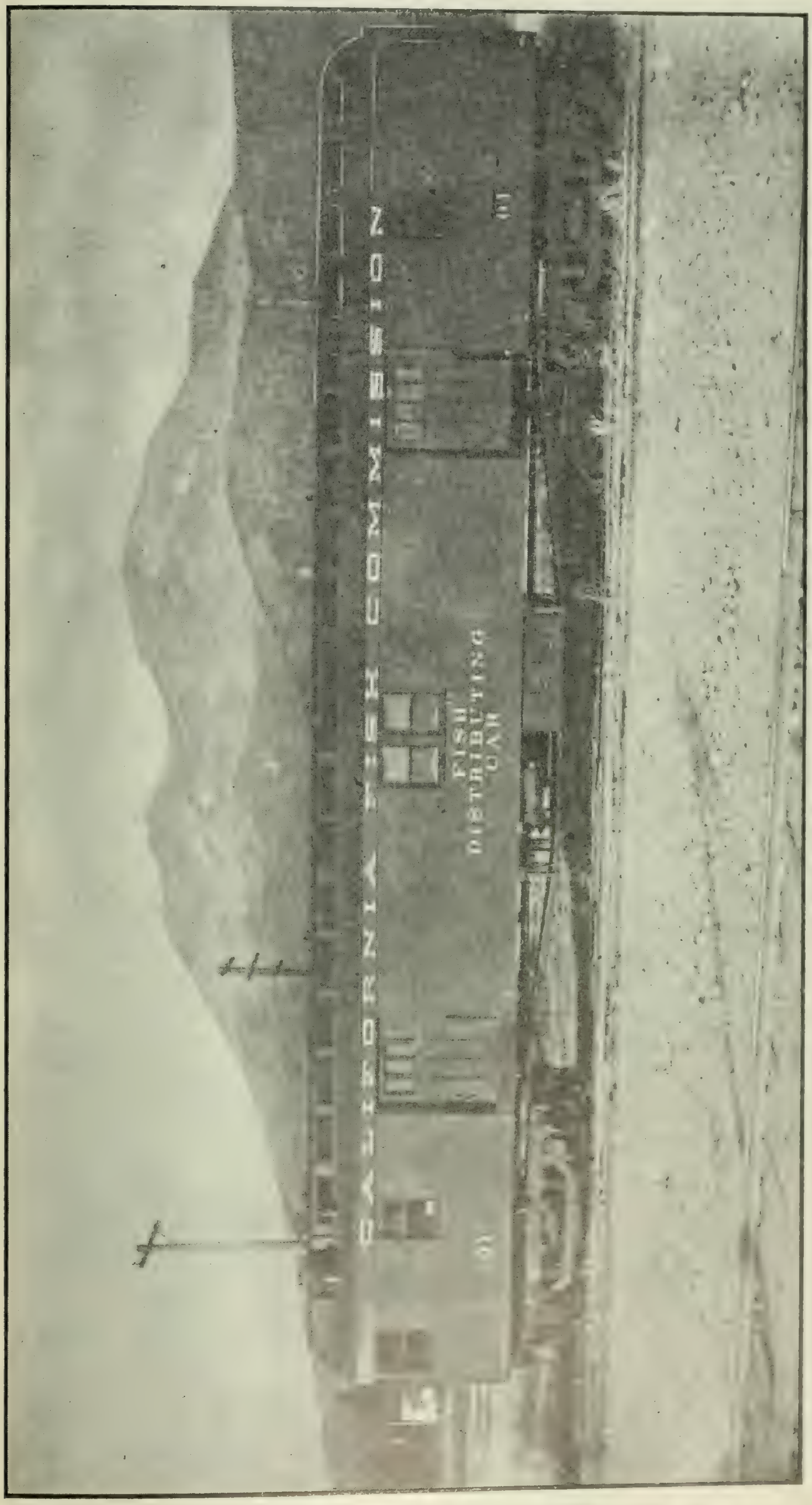
Some idea of the arduous character of the work is shown by the plants made in Deadman's Canyon, which occupied six days of pack-horse travel over a very rough country. The fish were true type, *Salmo roosevelti,* taken with seine at Whitney Meadows and planted with the remarkably low loss percentage of six fish out of 183, all adults.

THE FISH DISTRIBUTING CAR.

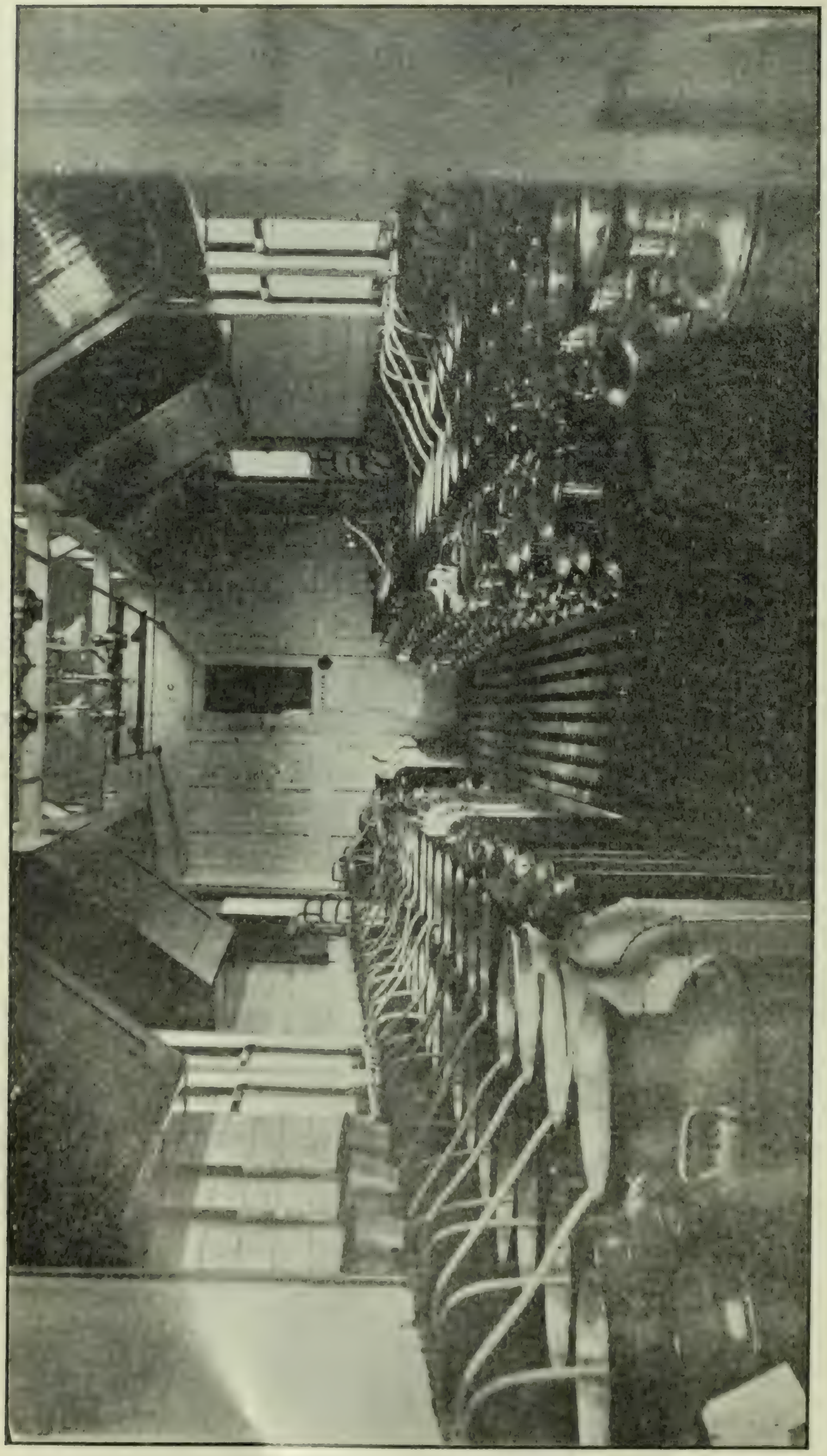
During the thirty-seventh legislative session an appropriation of $7,500.00 was secured for the purpose of acquiring and equipping a car to be used to distribute the fish raised in our hatcheries. At our principal hatchery, located at Sisson, the output was practically limited to the number of cans of fish that could be shipped between July 1st and November 15th of each year in the limited space that could be found in the crowded baggage or express cars, and which rarely accommodated twelve cans. On the long trips to southern California, occupying two nights and one day, the services of two men were required to handle twelve cans of fish and a week's time was occupied in making a round trip. Realizing that with better facilities to handle them not only could the output be increased and the fry reach the waters to be stocked in better condition, but the expense of distribution would be considerably reduced. The Chief Deputy, Mr. Chas. A. Vogelsang, being called to Washington to attend a meeting of the National Breeders' Association, was directed to inspect the fish distributing cars of the United States Bureau of Fisheries, of which there are six, with a view of getting the best ideas to incorporate in the new car under consideration, and the same was accordingly done. Through the courtesy of Mr. E. E. Calvin, general manager of the Southern Pacific Railroad Company, we were enabled to purchase for the sum of $4,500.00 a 60-foot substantially constructed baggage car. This car was then placed in the general car shops of the Southern Pacific Company at Sacramento, where under the personal supervision of master mechanic Heintzleman it received a complete and modern outfitting, including new trucks with steel wheels, air brake equipment, suitable lights, appropriate lettering and painting.

The interior was fitted up with four sleeping berths, following the plan of upper berths in Pullman cars, complete galley with six-hole range, tableware and table to accommodate the crew of four men. One end of the car was partitioned off and fitted up as an office for the superintendent of the car. The car also contained two steel tanks with a capacity of 500 gallons each, in which fresh water is carried as a reserve to replenish the supply in the cans carrying the fish should occasion arise. At the other end is located the engine room, in which is installed a steam boiler, two Westinghouse air pumps, a refrigerator, and the culinary department.

Under regular service conditions but one air pump is run at a time, but they are used alternately. The pumps compress air into an auxiliary tank or reservoir at a pressure of 80 pounds to the square inch, from which by using a reducing valve it is supplied to the cans containing the fish at 15 pounds. Before reaching them the air passes



Fish Distributing Car.



Interior of Fish Distributing Car.

through a system of coils placed in the bottom of the refrigerator, which chills it sufficiently to obviate the use of ice in the cans, where a temperature ranging between 48 and 50 degrees is constantly maintained. This plan also effects a saving in our ice bill over the former method of about 60 per cent.

The former crude method of aerating by hand every ten to twelve minutes, which meant lifting a half gallon dipper of water several feet above the can and pouring it back, has been abandoned.

Such treatment was hard on young, delicate fry, as through that operation many of them were injured or killed by being brought sharply in contact with the blocks of ice necessary in each can to maintain the water at a proper temperature. By the present method this danger is entirely overcome, as ice is not required until the cans leave the car.

Instead of having two men take between them twelve cans containing approximately 50.000 fish, the car with four men will easily carry ten times as many, or 500,000 fish, on a single trip. It has enabled us to treble the output from Sisson with very slight additional expense to the State.

Another important feature not to be overlooked is that by the aid of this car, which is really a traveling hatchery, we are enabled to concentrate our experienced force where best results can be obtained at small cost compared to the establishment and maintenance of other trout hatcheries where ice in quantity is not available, and transportation and distribution facilities totally inadequate. The car has fully met our expectations in all respects. The fish are being delivered in fine condition with practically no loss to any section of the State.

We are pleased to report that notwithstanding the stringent terms of the Wright railroad commissioners' bill, a liberal construction of the law was given by the Railroad Commissioners and the Attorney General, resulting in the different railway companies hauling our car and its crew free of charge.

During all stages of its construction our Mr. R. W. Requa was in attendance, and since going into commission, he has had full charge of the car, its crew and equipment, and we believe that to his energy and intelligence is due most of the credit for the success of the first fish distributing car in the West.

STATE GAME FARM.

As the hunting license law produced ample funds, and believing that the establishment of a State Game Farm where game birds could be raised in captivity and operated along the same lines as fish hatcheries, would be in entire accord with the spirit of the law, which authorizes expenditures for the propagation and restoration of game, and being encouraged by the example of other states, it was decided to undertake the establishment of one in California. Negotiations for services were entered into with several men who had had experience on game farms in Eastern States, also with Mr. J. R. Argabrite, a resident of California, who was a successful raiser of pheasants in Ventura County. This resulted in engaging the services of Mr. Argabrite in September, 1908. He was immediately detailed to examine and report on a number of different locations that had been offered for the establishment of such an institution. The choice finally fell upon some 45 acres located one mile west of Hayward, in Alameda County, owned by Mrs. H. G. Bedford. A lease was executed for one year, with a privilege of nine years additional, at the rate of $450.00 per year. Possession of the premises was assumed in November, 1908. An artesian well, which furnishes an abundance of water, was bored, and the construction of a barn, pens, brooders, and other necessary equipment was immediately begun. A contract was let for the building of a cottage for the superintendent. A stock of pheasants to be used for breeding purposes was purchased through Wenz & Mackensen, of Yardley, Pennsylvania, importers of choice European wild stock. Some were brought in from Oregon and others purchased from breeders in our own State. We also added to

State Game Farm—Male Hungarian Partridge.

the stock by withholding from distribution four dozen Hungarian partridges out of some 1,500 that had been purchased for distribution throughout the State. Owing to the fact that many of our imported pheasants did not arrive until the beginning of the breeding season, we collected comparatively few eggs the first year. The birds that were bought in our own State and Oregon were the first to arrive and were in prime condition at the breeding period. We raised approximately 1,200 young pheasants the first season, of which number about 800 were distributed in sections that in our opinion were specially adapted for their increase under wild conditions—Siskiyou, Humboldt, and Inyo counties receiving the largest number, ranging from 75 to 80 birds in each plant. Smaller shipments were made to other portions of the State and some given to private individuals who were properly equipped, and others liberated where conditions were favorable both as to environment and protection. In all, twenty counties received pheasants from the Game Farm the first year. A serious loss was sustained in October, 1909, through an act of vandalism—the pens being maliciously opened during the night, and many pheasants and valley quail were given their liberty. We were holding at the Game Farm for distribution at the end of the open season a large number of valley quail that had been trapped in remote sections where they are superabundant, and were to be used to restock public lands where through excessive shooting and interbreeding the supply of valley quail was

View of State Game Farm.

greatly reduced. Fortunately our superintendent was able to recover about three fourths of the pheasants, but the valley quail to the extent of 30 dozen were a total loss as far as the Game Farm was concerned. This outrage was followed within a few days by another more serious, when poisoned wheat was scattered in some of the pens that had not been opened, which killed a great many birds of all kinds. We estimated our total loss through escapes and poison at approximately 300 pheasants, 600 valley quail, and a few Hungarian partridges. A substantial reward was offered for information that would lead to the detection of the guilty party or parties. The matter was also placed in the hands of a well known detective agency, but sufficient evidence was not produced to justify taking the matter into the courts.

We retained from the previous year's hatch about 100 young birds for the season of 1910, and reared about 2,500 young birds until they were about six weeks old, at which time we met with another serious loss through a plague of rats that seemed to concentrate their efforts on the Game Farm, and cost us many young birds.

The improvements at the Game Farm are all of a substantial character, and were built with a view of meeting with requirements for a period of ten years. The total cost, including the original cost of birds, barn, residence, pumping plant, boring of a well, brooders and pens, is approximately $10,000. The working force has never exceeded three men, part of the time but two. We have through the sale of eggs and domestic poultry received returns in the shape of Game Farm earnings up to June 30, 1910, of $938.32, which is more than double the amount of the annual rental of the premises.

Our farm was recently visited by Dr. T. S. Palmer of Washington, D. C., in charge of game preservation in the United States. He pronounces it one of the best game farms that has come under his observation and one which he believes has a great future. The propagation in captivity of both game birds and animals is strongly encouraged by the Federal Department having charge of game preservation. It is believed to be the surest way to preserve and increase the wild game, and will furnish to those who do not hunt an opportunity to satisfy their tastes for wild game by purchasing it, either in the open markets or having it served to them at hotels and restaurants. Where pheasants have been furnished to private individuals from the Game Farm it has been with an agreement that a percentage of the increase in excess of the original stock should be returned to the State, either directly to the farm, or delivered to others, by order, who would take up seriously the propagation of pheasants in captivity. In the Appendix will be found a chapter on pheasant raising, which contains in condensed form sufficient directions to insure success, provided the instructions are carefully followed.

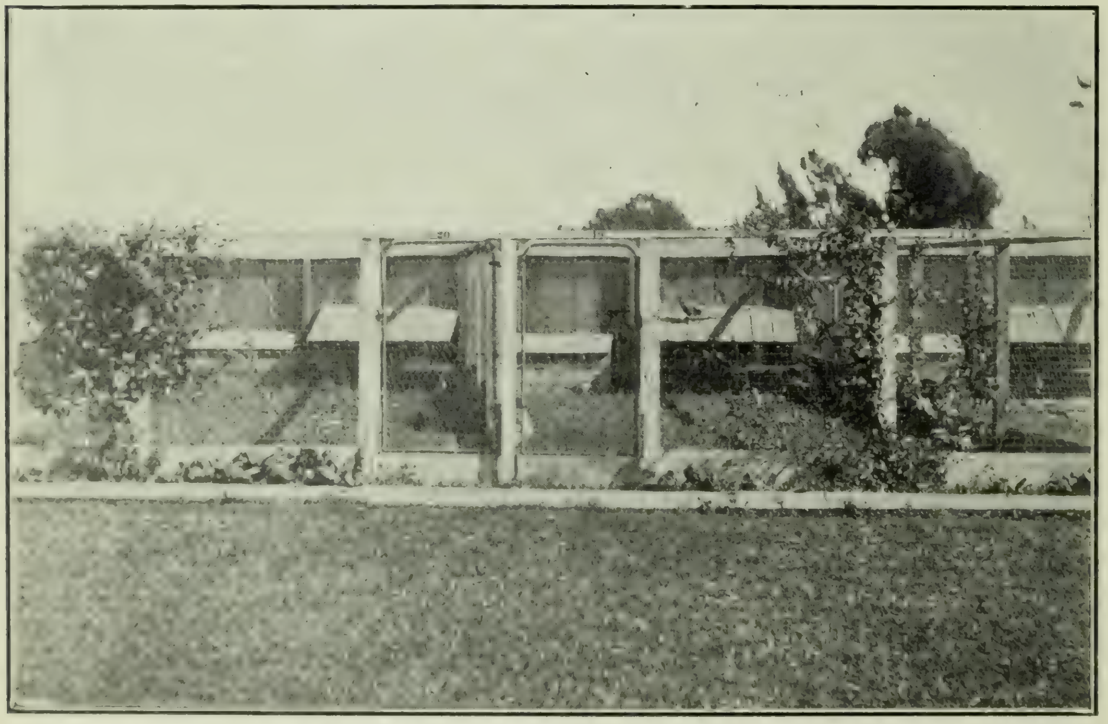
In the past three years much attention has been given to the transferring of valley quail from one part of the State to another. The birds are trapped in sections where they are abundant and shipped to others where through excessive shooting and deterioration, caused by inbreeding, the coveys have become greatly reduced. We are pleased to report that excellent results have followed in bringing together the unrelated stock, which is shown by larger coveys and stronger birds. In 1908 more than 2,000 quail were trapped and transferred; in 1909 our trappers delivered to the Game Farm 256 dozen, or more than 3,000 birds.

In the southern part of the State, under the direction of our Los Angeles office, some 1,500 quail were trapped in Lower California, transferred successfully to Los Angeles, where they were retained in a public park until the end of the open season, when they were liberated in suitable localities. Earnest efforts have been made and considerable time spent to obtain new blood from Mexico, but owing to unusual conditions but few birds have been procured from that country up to the present.

WILD TURKEYS (MELEAGRIS GALLOPAVO).

In response to requests and suggestions from a number of sportsmen in our State we had for several years made efforts to secure from Virginia, Texas, New Mexico, and Arizona, states in which wild turkeys are yet found, a sufficient number to give them a trial in California, believing they would establish themselves if given reasonable protection. We found the laws of New Mexico and Arizona so strictly drawn that no variety of game birds or animals could be shipped outside their boundaries for any purpose whatsoever. We appealed to the attorney generals of each state, and while we were assured of their personal inclination to help us out, they were bound by the law to rule against our request. We then decided to go outside of the United States and accordingly, in March, 1908, W. E. Van Slyke of San Bernardino, who had spent several years in Mexico, during which time he had hunted and killed wild turkeys, was detailed by this Commission to proceed to the State of Sinaloa, Mexico, for the purpose of procuring and shipping to our State as many of these great game birds as could be obtained in four months. He delivered 22 turkeys and 11 "chachalacas" at San Bernardino on June 15, 1908. They were liberated in two places in the San Bernardino range of mountains at an elevation of about 4,000 feet, under the direction of Senator H. M. Willis (author of the hunting license law). Encouraging reports having been received from these plants, a shipment of 30 young wild turkeys, raised at the Game Farm, was made to the same section in August of the present year.

The services of Mr. Van Slyke were reëngaged in October, 1908, to procure additional stock to be used for breeding purposes at the Game Farm. He was again successful and shipped to us, via Mazatlan, 26 fine specimens, which reached their destination in excellent condition. From this stock there was raised at the Game Farm in the spring of 1909, upwards of 100 strong, healthy, young birds, of which number 48 were sent in care of Mr. Jay Argabrite to Wawona in October, 1909, and liberated in the lower part of Yosemite Valley. Feed was scattered about, enough to supply their wants for several days. Although raised in captivity and not accustomed to anything higher for a perch than ordinary domestic fowls, they flew to the tops of tall trees immediately after liberation. Conditions seemed favorable for them so far as feed was concerned, and they have been reported as seen by several reliable persons, but no increase has been noted.



A section of breeding pens, Game Farm.

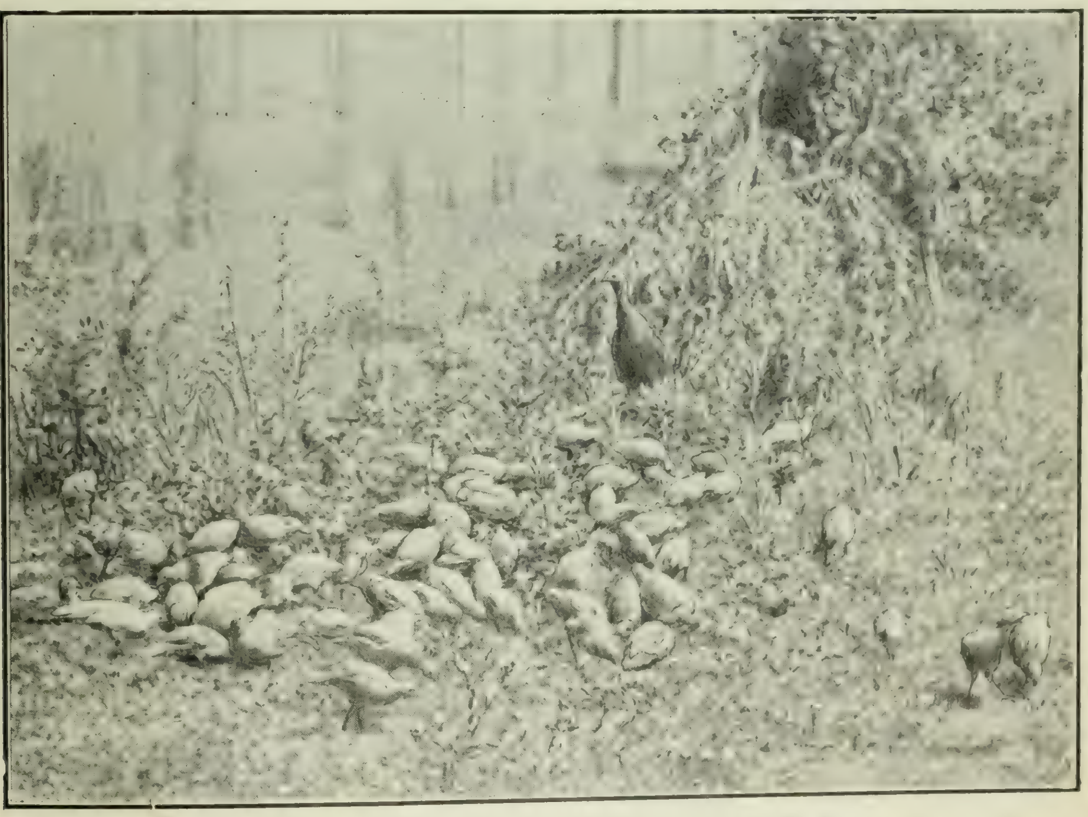
A shipment of 34 birds was made to the Sequoia National Park in eastern Tulare County in November, 1909, and placed in charge of Mr. Walter Fry, acting superintendent of the park, who has kept them under close observation and furnished this office with intelligent, trustworthy and most encouraging information concerning them. Quoting from his official report of January, 1910, he says:

> The wild nature of the turkey has fully reasserted itself; they are the most wary bird in the park. They will not run at the approach of an intruder, but will fly a mile before alighting.

In February, 1910, he reports finding a nest with 5 eggs; in March two nests, one with 11, the other with 16 eggs. On March 21st he reports "The wild turkeys doing fine. One hen has seven young birds." May 21st: "Wild turkeys seen are doing fine; many tracks of young birds, all seen at various places." Under date of July 14, 1910, referring to this season's shipment, he said:

> Wild turkeys were this day liberated in the Sequoia National Park at the mouth of the Marble Fork of the Kaneah River. They were in good condition and no losses sustained. I have left a man to care for them for a few days, although there is abundant feed for them at the place. They seem quite contented in their new surroundings and some flew up into the tall trees.

For the season of 1910 we are pleased to report remarkable success, having raised upwards of 200 young wild turkeys, of which number 85 were sent to the Sequoia National Park, 10 to citizens of Porterville, Tulare County, who liberated them in a particularly favorable section, and 30 to San Bernardino County. We feel greatly encouraged over the success attained thus far in the introduction of these magnificent game birds, and firmly believe that they will establish themselves permanently. There is no reason in our opinion why they should not thrive in this State. They have been known for many years in Arizona and New Mexico, and would, we believe, have reached California but for the great American desert, which encompasses our entire southern and eastern borders, and has always been an impassable barrier.



State Game Farm—Wild turkey hen with brood of young pheasants.

The young are easy to raise, being apparently a much hardier bird than the young of domesticated turkeys, whose vitality undoubtedly has suffered through too much domestication and inbreeding. The total cost to the hunting license fund of our venture in procuring and shipping from Mexico to our State the wild turkeys is less than $1,900.00, which includes the services and traveling expenses of Mr. Van Slyke for two trips.

Some question having been raised as to the genuineness of our stock, we were greatly pleased to have Prof. F. E. L. Beal of the United States Biological Survey, who has made a study of the wild turkey of the United States and Mexico, advise us after a visit to the Game Farm, that our stock was of the best; that there could be no doubt we had the genuine wild turkey. This was further confirmed by Dr. T. S. Palmer, in charge of Game Preservation of the United States, who pronounced them of the best strain of wild stock that had even come under his observation.

It is not commonly known that America, with special reference to Mexico, has given to the world the largest game bird, and perhaps the most important domestic fowl, in the turkey. The Pilgrims landing on our New England coast found them in plenty, and they filled an important place in the food supply of the Indians. It is reported they were introduced into England from Mexico in the sixteenth century, about 1541, and in 1573 had become the Christmas feast of the farmer.

Prof. S. F. Baird in a report to the Agricultural Department published in 1866, speaking of the Mexican turkey, says:

> Among the luxuries belonging to the high condition of civilization exhibited by the Mexican nation at the time of the Spanish conquest, was the possession by Montezuma of one of the most extensive zoological gardens on record, numbering nearly all the animals of that country, with others brought at much expense from great distances, and it is stated that turkeys were supplied as food in large numbers daily to the beasts of prey in the menagerie of the Mexican Emperor.

The well known ethnologist and ornithologist, George Bird Grinnell, in speaking of the wild turkey, says:

> The original wild turkey—to which the name *Meleagris gallopavo* was given—has been shown to be the bird later described by Gould as the Mexican wild turkey. It is notably different from the eastern form, for its tail, tail coverts, and the feathers of the lower rump are tipped with white or whitish, while the eastern and northern turkey has those feathers tipped with deep rusty or even with rich dark chestnut. The ordinary domestic turkey shows the whitish tippings of the feathers of tail, tail coverts, and lower rump; characteristics derived from its ancestor, the turkey of Mexico. The Mexican turkey occupies the wooden mountain slopes bordering the Mexican tablelands on the south and west, ranging north to Chihuahua, but it does not reach the United States. Mr. Nelson has shown where it grades into the Merriam's turkey on the north, while to the south, in southeastern Mexico and Central America, it is replaced by a striking distinct species, the brilliantly hued ocellated turkey.
>
> The eastern wild turkey, which was long considered the true *Meleagris gallopavo*, thus becomes a subspecies of the Mexican turkey, and is now known as *Meleagris gallopavo silvestris*.

THE HUNGARIAN PARTRIDGE.

During the past two years we have liberated in thirty-nine counties of the State about 2,400 of these famous European game birds.

A wide distribution has been given them from San Bernardino and San Diego counties in the south to Siskiyou County in the north. From many sections in the central, northern, and eastern parts of the State encouraging reports have been received. From the southern part of the State, San Bernardino County seems the only one in which the birds can now be found, and one covey containing 100 birds is reliably reported to be known in Yucaipe Valley. In Sonoma County, near Santa Rosa, several coveys aggregating 200 birds are reported. Increase is noted in Sierra, Siskiyou, Lake, Napa, Mendocino, San Benito, and Tehama counties. Excellent and trustworthy reports showing strong increase have come from Butte and Inyo counties.

According to Mr. Henry Oldys, assistant of the United States Biological Survey, during the past two years ''nearly 40,000 partridges have been transplanted from the game covers of Europe into those of America,'' previous to which time less than 8,000 had been imported.

This indicates a strong and widespread belief in the adaptability of the Hungarian partridge to this country. It is unquestionably regarded as the most promising of the foreign birds whose introduction is being attempted. The small state of Connecticut has in the past three years imported and liberated nearly 7,000 and the sportsmen of that state have found so much encouragement in the increasing number of coveys that further efforts are being made to increase the supply by additional importation. Illinois, Indiana, Nebraska, and New Jersey have met with sufficient success to justify further expenditures. From the state of Washington it is reported ''that along the northern border of the state Hungarian partridges have become almost as plentiful as pheasants.'' A carefully planned and successful attempt to introduce these birds is being carried on by Commissioner Sweeney of Indiana. He says, ''I have 10,000 Hungarian partridges in the state of Indiana on 160 game preserves, and during the next three months will distribute about 8,000 more. They have thriven exceedingly well and are proving themselves finely adapted to Indiana climate and agricultural conditions. I feel they are the coming game bird of the Middle West.''

The original habitat of the European partridge was on the shores of the Black Sea, and it is claimed ''that from there they spread, following in the steps of grain cultivation throughout central and northern Europe.'' While we recognize that in the valley quail our State possesses perhaps the finest game bird in the world, under the rapidly changing conditions caused by clearing off and settling of the wild lands their breeding ground is steadily being reduced, the coveys growing fewer and smaller except in the remote sections of a few counties. To meet this situation and fill the gap caused by the encroachments of civilization it was decided to make a trial with the Hungarian partridge, which, according to some excellent authorities, is in a manner dependent on man, and tend to increase on arable or cultivated land, and where there is none, or it has been changed to pasture they seem to decrease. As they are not a "brush" bird, it is believed they would readily adapt themselves to the conditions to be found in our great grain and fruit growing valleys from which the valley quail have practically disappeared.

In size they are somewhat larger than our mountain quail, but much swifter on the wing. Their food covers a considerable variety, all kinds of insects, wild berries, grain and other seeds, and almost any kind of green food. In appearance they are not unlike the bobwhite quail of the Eastern States, but fully twice as large and more prettily colored. The head and throat are of a light reddish brown color, with yellow stripes on the top of the head. A distinguishing feature is a brown shield in the shape of a horseshoe more or less distinct on the breast.

Like the bobwhite the partridges of Europe sleep on the ground in circular groups with heads pointed outward, ready to detect the approach of an enemy from any quarter and to scatter in every direction when danger threatens. They are not polygamous, but separate into pairs early in spring and seek places for nesting and raising of their broods. At this time the males become very pugnacious, and will attack vigorously any intruders of his own kind. The nest is a very simple affair, built on the ground in a small hole after the fashion of our valley quail. The eggs are laid on the bare ground and covered with grass and leaves. When the hen has finished laying she proceeds to place the grass and leaves underneath the eggs. A young partridge hen will lay from 8 to 12 eggs, and an old hen from 16 to 22. The male assists the hen in rearing the brood, and shows much skill in protecting and feeding the young birds. When able to fly the old birds take them out to the roads to dust themselves and search for ants' eggs and insects, which form their chief diet until they are full grown.

Contributors to *London Field* in 1904, and again in 1909, in speaking of partridges say: "The value of Hungarian partridges has of late years been fully demonstrated and their introduction has now long passed the experimental stage." * * * "The advantage of turning out Hungarian birds can not be overestimated. They are suitable from every point of view, stronger and hardier than our native birds, and therefore more capable of rearing large coveys."

To the Yearbook of the United States Department of Agriculture for the year 1909, in a pamphlet on "Introduction of the Hungarian Partridge in the United States," we are indebted for excerpts and descriptions.

THE $20 BOUNTY ON MOUNTAIN LIONS.

As soon as it was seen that the hunting license law was proving a financial success, and realizing that strong demands had been made on the legislature for a bounty on these marauders by stock raisers and people of the mountains generally who had suffered through their depredations, the Board believed that the payment of a bounty on these animals would further popularize the hunting license law by making the people of the county beneficiaries under it, and decided that sufficient authorization existed in section 10 of the hunting license law, referring to expenditures for game preservation and restoration. This opinion was concurred in by the Attorney General, representing the State Board of Examiners, and by the State Controller. We, therefore, began in November, 1907, to pay a bounty of $20.00 for the scalp or pelt of every lion sent to this office. In order to protect the State against fraudulent claims an affidavit is required for every scalp from each individual presenting a claim, which must show when and where the lion had been killed, and requiring in addition a letter giving the circumstances of the case.

Some criticism was made as to the liberality of the bounty, but careful investigation showing that it required trained dogs and sometimes days and weeks of time to capture a single lion, the Board felt justified in making a generous allowance, believing that the greater the incentive, the quicker would be accomplished the desired result—the decimation, if not extermination, of the mountain lion, which is the natural enemy of the deer—besides which he destroys much of the farmer's live stock. He seems to have a fondness for colts, but does not spare calves, pigs, sheep, or goats. This is confirmed by letters that have been received in this office from the applicants for the bounty, yet fully 90 per cent of them indicate that the stomach contents are deer meat. It is also shown that a lion seldom devours the entire carcass, except driven to it by hunger; that he appears to prefer the fresh blood of an animal, after which the carcass is covered with leaves and brush and only eaten as a last resort.

The experienced mountaineers claim that the lion kills from one to three deer a week each. To substantiate this claim we append hereto several letters, representing hundreds of others, all bearing testimony to the damage the lion will do to live stock as well as to deer:

MENDOCINO COUNTY.

COVELO, CALIFORNIA, February 20, 1908.

Board of Fish Commissioners, San Francisco, Cal.

DEAR SIRS: I write to you on a subject that I came near writing to you about last spring, but as you have done what I should have urged, that is, put a bounty on panther, or California lions. I now write to commend you for doing that, as I don't think you could have done anything that would have done more toward the preservation of the deer than putting a bounty on panthers.

Mountain lion "treed."

In the southeastern part of Trinity County, where I was last summer with a band of sheep, I found about thirty deer carcasses in a strip of country about a mile long by a half a mile in width that had been killed by panthers during the winter and spring.

In the winter time the snow drives the deer down into the streams in large numbers and keeps them there till it goes off in the spring, and the panthers, also driven down from the higher mountains, kill a great many of them; and they are also very destructive on the farms in the spring and summer. So, taking everything into consideration, they are very destructive on the game.

The people in this part of the country appreciate the effort you are making to preserve the game.

Yours respectfully,

[Signed.] JAMES A. FOSTER, JR.

HUMBOLDT COUNTY.

SHELTER POINT, CALIFORNIA, February 3, 1909.

To the State Board of Fish Commissioners, San Francisco, Cal.

GENTLEMEN: I wish to write you a little hunting story which came under my notice. Since January 22, 1909, William Barrow, a resident of this section, has killed five panthers and one lynx. Mr. Barrow's last panther left a tale which shows how destructive these brutes are to the deer.

According to Mr. Barrow, his dogs would not run the track when he came across it in the snow, but he, being an experienced hunter, knew that, although it was a day old, he stood a good show to raise him before night, so he followed the track. He did not raise him the first day, but went again the next day. During the time he followed this one animal Mr. Barrow came across five deer, all killed by having their throats torn out, but not otherwise badly injured. He followed him up the mountain into the deep snow, where deer were plentiful, and it was here that the panther showed his work. He went on higher until the snow became very deep and deer scarce, then he circled back down and returned to the last deer which he had slain. It was at the last deer that Mr. Barrow's dogs surprised him, and the chase did not last long, for he evidently had eaten too much venison.

Mr. Barrow brought his scalp in to-night and told me this story. He also killed one lynx while taking the five panthers. Hunting panthers with dogs is mighty hard work, especially when a man has from two to five feet of snow to contend with, and if it was not for the $20.00 offered by your board, you can rest assured that even Mr. Barrow would not be putting in time looking for that kind of game. That the $20.00 reward, or bounty, has done more for the protection of deer than anything else that ever happened, and I believe that if we were able to exterminate panthers, lynx, and cats, the country would be overrun with deer.

I have been a mountaineer for over eight years and a close observer of violators of game laws, and I think I am perfectly safe in saying it's not the people who make game scarce, it's wild animals. The people in this section are all in sympahty with the game laws and never complain about the one dollar license money. Game seems on the increase (all kinds, I mean), there are but few violations.

Very truly yours,

[Signed.] C. A. CHAMBERLAIN, Forest Ranger.

LAKE COUNTY.

LOWER LAKE, CALIFORNIA, January 9, 1910.

Fish and Game Commissioners, San Francisco, Cal.

GENTLEMEN: As you wish a letter stating how this lion, killed November 15, was taken, perhaps it will interest you to have the details just how it all came about.

Early on the morning of November 15th I received a telephone from one of my herders to the effect that some animal had made a raid on his flock of goats the night before and killed some seventeen or eighteen head.

I at once saddled my horse and in about three hours was at the place of the killing. I immediately concluded it was our old enemy, and didn't have to wait long until my pack of hounds were in hot purusit. After about an hour's fast running, he was forced to take a tree in a thick jungle of brush. It took us some time to crawl to the foot of the tree, and it was then that my herder, who was slightly in advance, fired, but being somewhat excited failed to kill the lion, only causing it to come to the ground, where he was met by twelve hounds eager for a fight. All was excitement for a few minutes until I managed to bring him down with a couple of bullets from my Winchester. One of my dogs lay dead, while two more more were bleeding from numerous gashes caused by the lion's claws. I was very much pleased with my day's work, as was a number of my neighbors. This lion had become quite a dread to the stockmen in this community, as in the last two years he had killed several colts and calves, besides a great number of small stock.

Kindly thanking you for the generous bounty, I am,

Most respectfully,

P. A. Jones.

MENDOCINO COUNTY.

Point Arena, California, February 12, 1910.

Fish and Game Commissioners, San Francisco, Cal.

Gentlemen: I am shipping you to-day, February 12th, two panther hides, one small one weighing about 80 pounds and one large one weighing about 150 pounds. The large one was killed on the 8th instant and the smaller one the 10th. Both were treed with hounds. Although several carcasses of sheep were lying on the range, where they had killed them, one's stomach was full of deer meat, and the other was entirely empty. I also found the carcasses of several deer in that vicinity, which shows that the deer is a favorite prey of the panther.

Please return the hides by express to Point Arena. Unfortunately I broke several inches of the larger one's tail, which decreases the length. Originally it was close to 10 feet. Have made out two affidavits, which I hope will be sufficient. Please send bounty to Point Arena. Any information I can give you in regard to the habits of the panther will be freely given.

Yours respectfully,

L. N. Campbell.

TRINITY COUNTY.

Bee Gum, California, April, 1910.

To the Honorable Board of Fish Commissioners, San Francisco.

Sirs: I am shipping you to-day the scalps of three lion kittens and the skins of two old ones. I would like to add a few words in regards to lions, but first would like to say that there was a report started by two men in this neighborhood last fall that your honorable board had discontinued the paying of a bounty on lions, which saved the lives of several lions and caused the death of a great many deer, to say nothing of the stock they killed. I myself knew nothing to the contrary until I happened to meet Mr. J. R. Watson of Trinity County, and he showed me a letter he had from you last fall in contradiction of the matter. I had had two dogs on the chain for two months and it took some time to get them in shape again.

These five lions represent a month's hunting and a scope of perhaps 35 or 40 miles of the roughest country in northern California. I have fine dogs. We got every lion that we found the sign of, with the single exception of the mother of the kittens, and I hope to get her yet. We hunted the largest of these lions, the male, fifteen days. His track was always too old for the dogs, but we finally struck it one morning fresh, and got him in an hour. In our hunt after this lion we found 12 deer that he had killed. Some he had only taken one small feed out of and never returned to them. I know this to be a fact, as we went morning after morning, hoping to strike his track at the carcasses, but a male lion will not do this if he can get a fresh deer. When he is hungry he never comes back. When they have all they want—they take one feed in twenty-four hours—and a large lion will eat a deer in two or three days. These are facts, as I have been in the mountains most of my life, and have made something of a study of animal life of all kinds. On the other hand, a female lion with kittens, and they hunt for the kittens until they are over a year old, of which they have from two to four, and there has been cases where five were found, but most often two to three; she kills a deer and takes a feed out of it, and the kits stay and finish it up while she gets another. A female lion with two or three kits will eat a large deer in twenty-four hours. It is any easy matter to get the kits if one can find where they have a deer.

It isn't the hunters that is getting away with the deer, but the wild animals. With a few exceptions in this neighborhood, the game laws are strictly adhered to. Hoping you will excuse me for taking up your time with this string, I am.

[Signed.] W. R. McArthur.

MENDOCINO COUNTY.

UPPER MATTOLE, CALIFORNIA, February 20, 1910.

Fish and Game Commission, San Francisco, Cal.

DEAR SIRS: Asking for information in regard to the three panther scalps sent to you, I will gladly furnish you with all the information I can in regard to the capture of them.

I was out on the range with my shepherd dog looking about stock when by chance I saw three panthers run around a point in the timber. Going down to where I saw them, my dog took the track and soon had one up in a tree. I got within reasonable good firing range and fired. The panther jumped and ran again, the dog in hot pursuit. On looking at his tracks where he jumped, I could see considerable blood. He ran about a quarter of a mile and treed again. Crawling up as closely as possible, I went to reload my gun and, behold, the shell had blowed off in my gun the previous shot, preventing me from reloading again. I then called my dog away and came home. Next morning, I went back to the place where I last saw the panther, taking with me three well trained hounds. I no sooner got to the place when the start dog took the track, and going slowly for about a quarter of a mile, started out briskly. Here I found two deer, a short distance apart, which they had been feeding on. The dogs ran half a mile and treed; going over there one dog had a small one up one tree, and a short distance away the other dog had another small one up a tree.

Killing both of them, I took a circle around the surrounding country in search of the third one. Had not traveled far until I came across another deer that hadn't been killed more than a few hours. The dogs took a fresh start, and in course of half an hour treed again. Going down to where they were, I could see a large panther in a tree. This was the mother of the two small ones. Well, as my gun was in good working order that day, I quickly dispatched this one, and this wound up what I consider a very profitable chase.

Starting back to my horse, and as I got near the place where I first saw them, I came across two more deer that had been killed recently, I suppose by these same panthers. Trusting this is satisfactory, I am,

Very truly yours,

[Signed.] GEO. C. LINDLEY.

LAKE COUNTY.

LOWER LAKE, CALIFORNIA, May 4, 1910.

Fish and Game Commissioners.

DEAR SIRS: I was out herding goats in the afternoon. It was about 2 o'clock. I was sitting under a tree watching the goats and I noticed something coming through the brush. I watched it and I saw it was a panther. It was after the tail end of the flock, and would have had a goat if I hadn't shot it as soon as I did. It had been in this country for several years—ten miles northeast of Lower Lake, Lake County. I have seen as many as a dozen small deer that the panther had caught. Some it had eaten almost up and others it had eaten all it wanted and covered the balance up with leaves and sticks. This is all I can tell you about the brute, only she has eaten lots of goats in this neighborhood.

Yours very truly,

TROY MEYERS.

It will be observed that, according to the letter of Mr. McArthur, one male lion in fifteen days killed twelve deer. That statement is corroborated by a letter of J. E. Simpson of Orland, Glenn County, who states that in following the tracks of one lion six days, in July, 1909, he came upon the carcasses of five deer. This would indicate that one deer a week for a lion is a very conservative estimate, and yet that means fifty-two deer per year for each lion, which represents by the killing of 1,100 lions a saving of more than 57,000 deer.

From November, 1907, to September 1, 1910, the total number of lion scalps or pelts received at this office was 1.132, about 500 a year, which represents a drain on our funds of $22,000.00. We are satisfied that this money has been well expended and that the damage done by them is not overestimated. During the past two years the reports from our deputies and forest rangers show a larger number of does and fawns than have been seen in many years. In the northern, eastern, and central portions of the State deer are showing a decided increase. In southern California, by reason of forest fires, which have destroyed much deer cover, and with a large and increasing hunting population, no increase can be noted.

HUNTING LICENSE LAW.

In the nineteenth biennial report of this Commission the establishment of a hunting license law was urgently recommended, and a forcible argument presented to the thirty-seventh session of the legislature, with the result that such a law was placed on the statute books. It has met with the unqualified approval and support of all our people who are interested in sporting and the preservation of our game. The splendid financial returns have encouraged other states to follow our example. During the past two years New York, New Jersey, Iowa, Texas, Nevada, and Arizona has each come into line with a hunting license law, following closely the law of California. We are informed that the establishment of a similar law in the state of New York is due to the data and material furnished by us to the leading sportsmen of New York, who presented it before the legislature of that state. All of the states in the Union, also Alaska and the Canadian Provinces, require a license in one form or another. In a few states a license is not required from a resident, but nonresident licenses are required in all of them except Arkansas, whose nonresidents are not permitted to hunt. Four states, South Carolina, Tennessee, Georgia, and Louisiana, require that a market hunter take out a special license, the fee being $50.00 in the former, $25.00 in Tennessee and Georgia, and $10.00 in Louisiana.

In a number of states the *resident* license fee is greater than in California; Alabama charges $3.00, Washington and Alaska $5.00, Michigan and Wyoming $1.50, Connecticut, Vermont, and Oklahoma $1.25.

Some states issue to aliens a license for the same amount as a nonresident of the State, but a strong tendency is noted to make the fee for an alien greater than that of a citizen of the country. Our alien license fee of $25.00 is exceeded by a number of other states, for example, in Utah and Alaska the fee is $100.00, in Washington and Wyoming $50.00. In British Columbia, Yukon, and Saskatchewan $100.00 is exacted of an alien and nonresident alike. Certain provinces of Canada, Ontario, Manitoba, New Brunswick, and Newfoundland charge $50.00. The State of Pennsylvania goes even further and prohibits aliens from hunting or owning guns in the state.

As to the constitutionality of the law requiring aliens to pay a larger fee than citizens of the state, a recent decision of the Supreme Court of Alabama in the case of *Luke* vs. *Calhoun County* on the right of the state to impose different license fees, the language used by the court is clean-cut and decisive. It says in part: "It is a legal and political axiom that protection and allegiance are reciprocal. Aliens, resident or sojourning here, do not owe the full measure of allegiance exacted from the citizen, nor can they enjoy the rights, privileges, and immunities of citizenship."

At the last session of the legislature we recommended that the law be amended to permit a 10 per cent commission to be paid to every person selling licenses, except a fish and game commissioner. This became necessary in order to provide a way in which county clerks could be compensated for the money actually expended in postage, the labor involved in the issuing of licenses, and correspondence in relation thereto. A number of bills were introduced in the interest of county clerks asking that a commission be allowed ranging from 5 to 20 per cent. We believe the allowance of 10 per cent is ample. It means an annual drain on the fish and game preservation fund of at least $12,000.00. As the law has become thoroughly understood and the county clerks have distributed licenses in the principal towns in their respective counties, the postage charges have been greatly reduced. In none of them has it exceeded 4 per cent, leaving a margin of profit for time and labor of 6 per cent, which may be considered reasonable compensation.

The money derived from the sale of hunting licenses is used for the payments of salaries to deputies directly engaged in the enforcement of the game laws, in commissions to county clerks, the maintenance of the Game Farm, bounties on mountain lions, the trapping, distribution, and introduction of game birds, a proportion of office expenses, and the propagation of game fishes. Those who pay for hunting licenses are not contributing toward the support of the *commercial* hatcheries.

All fines of whatever character are paid into the same fund as the hunting license money, the fish and game preservation fund; they amount approximately to $16,000.00 a year, which more than meets the expense involved in the propagation of trout and other game fishes.

The amount of hunting license sales by counties since the law became effective, July 1, 1907, is shown in the tables given in the Appendix. The apparent discrepancy between these records and the amount shown by our financial statement is due to the fact that at the close of the fiscal year all county clerks had not made final settlement with the controller.

RECOMMENDATIONS.

Much confusion has been caused by the passage of county ordinances in which the seasons for the taking of fish and game have been changed by county boards of supervisors. While we realize that in some sections which are easy of access from the densely populated centers, it would seem to be the part of wisdom to shorten seasons, the method that has been followed could be greatly improved. The supervisors act under the authority that is found in section 25, subdivision 28 of the county government act, which provides that boards of supervisors in their respective counties have jurisdiction and power "to provide by ordinances not in conflict with the general laws of the State for the protection of fish and game, and *may shorten* the seasons for the taking or killing of fish and game within the dates fixed by the general State law, but *can not lengthen the same.*" We believe that the Board of Fish and Game Commissioners should be consulted whenever a change, however slight, from the state law, is contemplated. The Fish and Game Commissioners through their legal advisor, the Attorney General, could then prepare the ordinance, the terms and conditions of which should be mutually agreed upon, and in due course given approval by the supervisors in executive session. There should also be a time fixed when such action could be taken. This would give the Fish and Game Commissioners an opportunity to have these changes duly printed and distributed. Under existing conditions the laws are changed by county ordinances without consultation with the State Board of Fish and Game Commissioners, and no notification is given that any action has been taken, resulting in much confusion and frequently unintentional violations of county ordinances.

With respect to changes in the existing laws, we would recommend the following modifications:

Section 626*g*, relating to tree squirrels; opening the season on August 1st instead of September 1st, and eliminating the bag limit.

Amend section 626*a*, relating to doves, by changing the opening date from July 15th to August 1st, and extending it from October 15th to November 1st.

Amend section 626*k* to permit pheasants raised in captivity to be sold in the markets under proper restrictions.

Amend section 626*f*, relating to deer, by reducing the open season one month, beginning on the 1st day of August and closing October 15th.

Establish a close season of seven months on wild pigeons from the 1st day of January to the 1st day of August of each year, and fixing a bag limit of 20.

We respectfully recommend the following amendments to the laws regarding the taking or possession of fish, shrimp, etc.:

Amend section 628 by making it an offense for any person to take or have in his possession during any one calendar day more than five pounds of dried shrimp or shrimp shells of shrimp taken in the waters of this State.

Amend section 628, relating to crabs, by establishing a close season of two years on the taking or possession of any crabs (*Cancer magister*).

Amend section 628, relating to the sale of catfish, by defining a dressed catfish as one measuring not less than eight inches, exclusive of the head.

Amend section 628, as it refers to abalone taken in the waters of this State, by prohibiting the shipment of dried abalones or unmanufactured abalone shells out of the State, and permitting the capture and possession of red and green abalones measuring not less than sixteen inches in circumference, and black abalone not less than twelve inches in circumference—around the outer edge of the shell.

Amend section 628*a*, relating to striped bass, by prohibiting the exportation of any striped bass from the State of California.

Amend section 632, relating to trout, so that trout raised in captivity and measuring not less than seven inches in length may be sold in the markets between the 1st of April and the 1st of February of the year following, under restrictions to be recommended by the Board of Fish and Game Commissioners; also authorizing said Board of Fish and Game Commissioners to furnish at cost a reasonable number of trout eggs or ova to private individuals or companies who desire to engage in and carry on such an industry, when in the judgment of the said Commissioners a sufficient number of eggs has first been taken to meet the needs of the public waters of the State.

ACKNOWLEDGMENTS.

To you officially and personally we desire to express our sincere appreciation for the encouragement and practical assistance rendered to us in carrying on our work. You have given earnest and careful consideration to every measure recommended by us. We feel that through your efforts we are indebted largely for the hunting license law, which is the most important achievement in the interests of fish and game protection in the history of the State.

The Commission also desires to acknowledge its gratitude to the officers and subordinates of the following railway and transportation companies for courtesies extended to our men and for the uninterrupted and free transportation of eggs and fish—and so long as the statutes of this State permitted—free transportation for *all* of our employees:

The Southern Pacific Company; the Santa Fe Company; the Sierra Railway Company; to the California Northwestern Company; the Lake Tahoe Railway Transportation Company; the Nevada-California-Oregon Railway Company; the Boca and Loyalton Railway Company, and to the Pacific Coast Steamship Company. To Hon. George M. Bowers, United States Commissioner of Fisheries at Washington, D. C., and to his able assistants, Dr. H. M. Smith, Dr. B. W. Evermann, J. G. Dunlap, also Captain G. H. Lambson, superintendent of the salmon egg-collecting stations in California, we are under obligations for their cordial support and assistance in carrying on the fish cultural work. To Mr. A. Christeson, general manager of Wells, Fargo & Co., Mr. Thos. Woods, superintendent, Mr. J. C. Tice, and Mr. E. E. Honn, and in fact all the superintendents, agents and employees of that company, we are especially indebted for many privileges and unfailing courtesies. All requests have received respectful consideration, and in many instances voluntary assistance has been rendered that proved of great value to the State.

We desire also to extend our thanks to Mr. D. L. Bliss, Jr., superintendent of Lake Tahoe Railway and Transportation Company, for many courtesies and substantial assistance rendered in the free transportation of our men engaged in fish cultural work, and also the free handling of trout eggs and trout fry. To Messrs. Lawrence and Comstock, at Tallac, we are also indebted for the free use of teams for hauling fish, eggs, and supplies, and for many other privileges. To Washburn Brothers of Wawona our thanks are due for courtesies and assistance rendered our representatives and the free transportation of eggs, also the fry from the hatchery.

We are also indebted to Major W. W. Forsyth, acting superintendent of Yosemite National Park, for many courtesies and valuable assistance.

In submitting this report of the work accomplished, which practically covers a period of four years, we trust it will meet with your approval and that the recommendations made by us, which represent our best judgment, will be enacted into laws.

We have fully appreciated our responsibility in disbursing the large sums of money now at the disposal of this Commission, and have endeavored to expend it judiciously, and where in our opinion it would do the greatest good to the greatest number, always bearing in mind the possibility of a decrease in revenue, coupled with the fact that under the law the property under our control, valued at thousands of dollars, can not be insured. We have considered it a wise precaution to be prepared for any emergency as is shown by the balance in the state treasury at the close of the fiscal year, amounting to $73,318.21.

Yours respectfully,

F. W. VAN SICKLEN,
M. J. CONNELL,
W. G. HENSHAW,
Fish and Game Commissioners.

San Francisco, Cal., September 1, 1910.

APPENDIX.

TWENTY-FIRST BIENNIAL REPORT OF FISH AND GAME COMMISSION.

TWENTIETH BIENNIAL REPORT AND FINANCIAL STATEMENT

OF THE

STATE BOARD OF FISH COMMISSIONERS

FOR THE YEARS 1907-1908.

To the Hon. James N. Gillett, *Governor State of California.*

Sir: We have the honor to submit for your consideration, the following preliminary report as a brief record of the work and expenditures of this Commission covering the biennial period of the fifty-eighth and fifty-ninth fiscal years. Also the recommendations with respect to the changes in the fish and game laws of this State based upon our experience and close study of these important subjects, which we deem advisable.

For the purpose of comparison, we are submitting the financial statement for the fifty-sixth and fifty-seventh fiscal years to show the increase, both in resources and expenditures, also the decided increase in the number of arrests and total amount paid in fines over any other biennial period in the history of this Commission. This is due to the splendid results that have followed the establishment of a hunting license law, which in our opinion is the most popular law ever placed on our statute books. The returns on hunting licenses exceeded about four times the estimated number of the most sanguine.

Our full biennial report, which is now under compilation, will show more in detail the record of work performed at our different hatchery stations and other general work of the Commission.

FINANCIAL STATEMENT.

The resources and expenditures of this Commission have been as follows for the fifty-sixth and fifty-seventh fiscal years, ending June 30, 1906:

Fifty-Sixth Fiscal Year.

	Resources.	Disbursements.
Appropriation for support and maintenance of State hatcheries	$12,500 00	$12,500 00
Appropriation for restoration and preservation of fish	10,000 00	10,000 00
Appropriation for restoration and preservation of game	7,500 00	7,500 00
Steelhead Propagation Fund—		
Balance on hand July 1, 1904	625 33	
Drawn from fund during year		489 62
Balance on hand June 30, 1905		135 71
Game Preservation Fund—		
Balance on hand July 1, 1904	1,916 86	
Receipts from fines during the year	4,019 15	
Amounts drawn during year		4,620 55
Balance on hand July 30, 1905		1,315 46
Fish Commission Fund—		
Balance on hand July 1, 1904	7,325 52	
Receipts from licenses and fines	10,026 35	
Amount drawn from fund during year		12,377 57
Balance on hand June 30, 1905		4,974 30
Totals	$53,913 21	$53,913 21

	Resources.	Disbursements.
Appropriation for support and maintenance of State hatcheries	$12,500 00	$12,500 00
Appropriation for restoration and preservation of game	12,500 00	12,500 00
Appropriation for restoration and preservation of fish	10,000 00	10,000 00
Steelhead Propagation Fund—		
Balance on hand July 1, 1905	135 71	
Drawn from fund during year		135 71
Game Preservation Fund—		
Balance on hand July 1, 1905	1,315 46	
Receipts from fines during the year	5,295 89	
Amount drawn during year		4,888 80
Balance on hand June 30, 1906		1,722 55
Fish Commission Fund—		
Balance on hand July 1, 1905	4,974 30	
Receipts from licenses and fines	10,340 35	
Amount drawn from fund during year		10,255 54
Balance on hand June 30, 1906		5,059 11
Totals	$57,061 71	$57,061 71

Resources and expenditures of this Commission for the fifty-eighth and fifty-ninth fiscal years, ending June 30, 1908, were as follows:

FIFTY-EIGHTH FISCAL YEAR.

	Resources.	Disbursements.
Appropriation for support and maintenance of State hatcheries	$20,000 00	$20,000 00
Appropriation for restoration and preservation of game	10,000 00	10,000 00
Appropriation for restoration and preservation of fish	10,000 00	10,000 00
Game Preservation Fund—		
Balance on hand July 1, 1906	1,722 55	
Receipts during the year from fines	3,506 93	
Amount drawn during the year		3,532 31
Balance on hand June 30, 1907		1,697 17
Fish Commission Fund—		
Balance on hand July 1, 1906	5,059 11	
Receipts from fisherman's licenses	5,930 00	
Receipts from fines	4,039 23	
Amount drawn during the year		10,040 45
Balance on hand June 30, 1907		4,987 89
Totals	$60,257 82	$60,257 82

FIFTY-NINTH FISCAL YEAR.

Appropriation for support and maintenance of State hatcheries		$20,000 00	$20,000 00
Appropriation for restoration and preservation of game		10,000 00	10,000 00
Appropriation for restoration and preservation of fish		10,000 00	10,000 00
Game Preservation Fund—			
Balance on hand July 1, 1907		1,697 17	
Receipts during the year—			
From fines	$7,425 93	124,044 19	
From hunting licenses	116,579 11		
From sale of deer hides	39 15		
Amount drawn during year			46,641 70
Bounty on 287 California lions, October 15, 1907, to June 30, 1908			5,740 00
Balance on hand June 30, 1908			73,359 66
Fish Commission Fund—			
Balance on hand July 1, 1907		4,987 89	
Receipts from fisherman's licenses		3,784 10	
Receipts from fines		8,683 69	
Amount drawn during year			11,064 64
Balance on hand June 30, 1908			6,391 04
Fund for Fish Distribution Car—			
Appropriation		7,500 00	
Amount drawn during year			5,458 76
Balance on hand June 30, 1908			2,041 24
Fund for Fish Repository in Tuolumne County—			
Appropriation		500 00	
Amount drawn during year			299 95
Balance on hand June 30, 1908			200 05
Totals		$191,197 04	$191,197 04

The following comparative table is interesting, showing the increase in the number of arrests from year to year and the amount of fines imposed during each two years for the past twelve years:

Biennial period.	Violation of deer law.		Violation of quail law.		Violation of duck law.		Violation of salmon law.		Violation of striped bass law.		Illegally used nets seized and confiscated	Total fines from all sources.
	No. of arrests.	Fines.	No. of arrests.	Fines.	No. of arrests.	Fines.	No. of arrests.	Fines.	No. of arrests.	Fines.		
1897-1898...	11	$100	7	$40	14	$220	19	$200	8	$100	30	$3,125 00
1899-1900...	37	735	3	350	6	220	18	900	47	805	23	5,779 00
1901-1902...	75	1,600	97	1,775	30	545	23	2,400	26	185	28	9,497 00
1903-1904...	135	2,035	109	2,344	30	375	15	1,040	69	1,340	47	11,738 00
1905-1906...	172	4,355	106	2,270	75	1,530	39	3,350	103	4,120	59	23,154 90
1907-1908...	196	5,230	102	2,337	63	1,124	27	2,900	153	5,401	85	30,122 25

We respectfully recommend the following amendments to the game laws:

Amend section 626 by making the open season for valley quail, rail, snipe, curlew, ibis, plover, or other shore birds to commence with the duck law on October 1st instead of October 15th, and close the season for ducks and these other birds on February 1st instead of February 15th, except the Wilson snipe.

We also recommend that a close season of two years be established on mountain quail and grouse or sage hen.

Amend section 626*c* by adding to the list of game birds protected at all times, the wild turkey, which is now being imported into this State.

Amend section 626*d* by reducing the bag limit on ducks from thirty-five to twenty-five, also to include black sea brant and to reduce the bag limit of quail, doves, snipe, curlew, ibis, plover, rail, or other shore birds from twenty-five to twenty.

We would also recommend that a law be enacted to prohibit the use of any trained animals or live blind to use as a means of approach for the purpose of killing any wild ducks or other waterfowl.

We also recommend the present hunting license be amended to include fishing or angling, the amount to remain the same, and to be used for both, or either, hunting or fishing, and the money derived from such hunting license sales be paid into one fund to be known as the fish and game preservation fund, into which fund the unexpended balances remaining in the fish commission fund and game preservation fund, respectively, shall be merged.

We recommend the following amendments to the fish laws:

Amend section 628, relating to crabs, by raising the present close season September and October, and establishing in lieu thereof a close season of four months beginning November 1st and ending February 28th. And to establish a close season for at least two years on lobster or crawfish.

Amend section 628*a*, relating to striped bass, by establishing a close season of six weeks from the 1st day of May to the 15th day of June, during which time (the principal spawning season of these fish) their capture by nets and seines shall be prohibited.

Amend section 632½, referring to steelhead trout, by removing the close season that existed during the months of September and October, and to open the season for the capture of steelhead trout in all waters of the State April 1st, and to extend to February 1st the following year.

Amend section 634 by reducing the mesh of net at which salmon can be taken from 7½ to 6½ inches, and reduce the mesh of net by which striped bass and shad can be taken to 5½ inches.

Amend section 636 by striking out the word "set" and substituting the word "use."

Amend the act of 1887, March 21st, referring to the vocation of fishing by reducing the amount of license fee to a citizen of the United States from $5.00 to $2.50 and raising the fee to any person not a citizen of the United States to $10.

We append herewith an additional statement of the condition of the game preservation fund, showing the amount remaining in this fund on February 1, 1909, from the sale of hunting licenses and fines collected, together with our estimate of expenses for game preservation to the close of the fiscal year, June 30, 1909.

Amount in license fund February 1, 1909		$106,276 00
Amount received for fines since July 1, 1908		4,161 00
		$110.437 00
Estimate of expenses of the Commission for game preservation for the next five months:		
Salary and expenses of 62 deputies and assistants, $7,560 per month	$37,800 00	
For rewards in conviction cases paid outside deputies, monthly average $450	2.250 00	
Expenses of Game Farm, monthly average $300	1.500 00	
Incidentals, including office rent, expressage, license tags, telephone, and telegraph, fuel for launches, cost of prosecutions in justice and superior courts, postage, stationery, etc., monthly average $660	3.300 00	
Repair and maintenance of car	500 00	
Bounty on lions per month, $600	3.000 00	
Hungarian partridges and pheasants (contracted for)	3.000 00	
Trapping and distributing quail and procuring and importing wild turkeys	4.000 00	
Proposed expenditures for Hungarian partridges	5.000 00	
		60.350 00
Balance		$50.087 00

N. B.—It should be borne in mind that it will be four months after the end of the present fiscal year, during which time no license money will be available and the average monthly expense of about $12.000—or, say, $48,000—must be provided for from our surplus. Also payment for cottage at Game Farm, amounting to $1,750, now being built under contract.

Respectfully submitted.

GEORGE STONE,
F. W. VAN SICKLEN,
M. J. CONNELL,
Board of Fish Commissioners.

REPORT ON RECEIPTS AND DISBURSEMENTS OF FISH AND GAME COMMISSION, TWO YEARS ENDING JUNE 30, 1910.

By Price, Waterhouse & Co., Chartered Accountants.

San Francisco, September 15, 1910.

California Fish and Game Commission, San Francisco, Cal.

Dear Sirs: In accordance with your instructions, we have made an examination of the books and accounts of the California Fish and Game Commission for the two years ending June 30, 1910, and we attach hereto the following schedules:

Statement of receipts and disbursements, year ending June 30, 1909, Exhibit "A."

Statement of receipts and disbursements, year ending June 30, 1910, Exhibit "B."

From the statements submitted it will be seen that the accounts have materially changed since July 1, 1908, inasmuch as the funds for the restoration and preservation of game and the restoration and preservation of fish have been discontinued altogether, and the game preservation fund and the fish commission fund have been merged into a fund called "Fish and Game Preservation Fund," which was created and approved on March 15, 1909.

For the year ending June 30, 1909, the fish and game preservation fund received credit for the sum of $136,064.84 from hunting and fishing licenses, fines and fish eggs sold to the German Government. In addition the following appropriations were made by the legislature:

Support and maintenance of hatcheries	$20,000 00
Restoration and preservation of game	10,000 00
Restoration and preservation of fish	10,000 00
	$40,000 00

For the year ending June 30, 1910, there was only one appropriation made of $20,000.00 for the support and maintenance of hatcheries, which fund also received credit for the receipts from fishing licenses sold, which amounted to $21,982.50.

We have limited our examination, in so far as the records of the two years above referred to are concerned, to the checking of all disbursements by the Chief Deputy, and to see that all hunting and fishing licenses issued for the year ending June 30, 1910, have been properly accounted for. Regarding the disbursements by the Chief Deputy we have seen vouchers or other acknowledgments for all, with the exception of two small disbursements amounting to $11.88. As no complete classification of the disbursements has been made, we are unable to make such a classification now, but we will outline a system which will provide for this in the future.

We have seen that all receipts from the sale of hunting licenses for the year ending June 30, 1910, have been properly recorded and accounted for to the State Treasurer, and we have seen acknowledgments from the State Controller stating that all fishing licenses for the two years which remained unsold have been properly returned to him. We have also seen a letter from the State Controller which verified the balances in the treasury at June 30, 1910.

The value of the hunting licenses printed for the season 1909–10 was which is accounted for as follows:			$165,750 00
Cash receipts during year		$126,734 35	
Less:			
Amounts applying to prior year:			
1909.			
July 6—Marin County	$905 00		
6—San Francisco County	1 00		
9—Siskiyou County	3 00		
12—Tehama County	2 00		
15—San Francisco office	2,338 25		
28—Amador County	2 00		
29—Alameda County	100 00		
Aug. 9—Modoc County	113 00		
21—Tuolumne County	10 00		
Dec. 21—Merced County	15 00		
		3,480 25	
			$123,254 10
Add:			
Amounts collected since June 30, 1910, applying on year 1909–10:			
1910.			
July 5—Riverside County	$1 00		
6—San Francisco office	2,221 00		
8—Imperial County	44 50		
12—San Mateo County	125 00		
15—Madera County	167 60		
15—San Benito County	1,060 00		
23—Sonoma County	576 00		
25—Inyo County	16 00		
25—Placer County	986 00		
		5,197 10	
		$128,451 20	
Unsold licenses, duplicates, etc.		37,259 00	
Express charges on remittances from county clerks to Sacramento		83 80	
Licenses still owed for by Inyo county clerk (5 at $10.00)		50 00	
		$165,844 00	
Less:			
Amount overpaid by San Diego County	$85 00		
$1.00 license changed to $10.00—Shasta County	9 00		
		94 00	
			$165,750 00

In addition to the work done by us on the accounts for the past two years, we have also checked the following on account of the present year 1910-11:

Hunting licenses printed by the Union Lithograph Company as follows:

Aliens, 500 at $25.00	$12,500 00
Nonresident citizens, 500 at $10.00	5,000 00
Resident citizens, 135,000 at $1.00	135,000 00
	$152,500 00

At the time of our audit, August 24th, the following had been issued:

	Alien.	Non-resident.	Resident.	Value.
San Francisco office	25	10	4,200	$4,925 00
Firms, etc.			5,350	5,350 00
Los Angeles office	5	5	2,500	2,675 00
Fresno office			200	200 00
A. F. Lea			50	50 00
Harry Warr			50	50 00
County clerks	205	300	113,900	124,525 00
	335	315	126,250	$137,775 00
Leaving unissued	165	185	8,750	14,725 00
	500	500	135,000	$152,500 00

We counted all the licenses which were unissued and those unsold in the San Francisco office, and we saw receipts for all licenses issued to county clerks, etc., with the exception of Inyo County, for 5 aliens, 10 nonresidents, and 1,000 residents' licenses forwarded on June 3, 1910. We found on August 24, 1910, that the San Francisco office had collected for—

Licenses sold		$9,535 00
Which was accounted for as follows:		
Mercantile National Bank, San Francisco (per certificate)	$9,436 45	
Cash on hand	23 55	
Checks on hand	24 00	
Board of health licenses issued	26 00	
Express charges on coin from Sacramento	14 20	
Sundry vouchers	15 75	
		9,539 95
Over		$4 95
Being:		
Unlocated difference	$2 00	
Interest on bank balance	4 60	
	$6 60	
Less:		
Bank collection charge	1 65	
		$4 95

It will be seen from the above that a small amount of the license sales has been withheld in order to pay for express charges and certain small items of expense which require immediate payment. We consider that all cash received from the sale of licenses should be deposited daily, and that a fund of say $100.00, or $250.00 if necessary, should be created, out of which all such disbursements can be made.

We notice that hunting licenses are printed by the Union Lithograph Company, in whose possession the dies for these licenses, we presume, are still held. It would seem to us to be an easy matter to get an additional lot of these licenses printed, and to any one in the San Francisco office who is familiar with the sale of such licenses they could be sold and the funds never reach the hands of the Commissioners. We think that the hunting licenses should come through the State Controller's office in the same manner as the fishing licenses. This would eliminate practically all chance of getting additional licenses printed.

The following amount of fishing licenses were received from the State Controller for the year 1910-11:

2,000 aliens at $10.00	$20,000 00
2,000 citizens at $2.50	5,000 00
	$25,000 00

At August 24, 1910, we found that of this amount the following had been sold:

1,274 aliens at $10.00		$12,740 00
1,088 citizens at $2.50		2,720 00
		$15,460 00
Which was accounted for by:		
Bank of California certificate	$10,457 50	
Remittances to State Treasurer August 9, 1910	5,000 00	
Cash on hand	2 50	
		$15,460 00

The licenses unsold in the San Francisco office were counted and found in order, and the licenses in hands of deputies were all verified by letters from the various deputies.

While the fishing licenses expire on March 31st of each year, the receipts from license sales have been considered as revenue applying on the following fiscal year ending June 30th.

We find that there are approximately $40,000.00 receipts from sale of licenses and $120,000.00 disbursements passing through the hands of the Chief Deputy annually, and that the only bond given by any one is for $2,000.00, from the president of the Board of Fish and Game Commissioners. This would appear to us to be entirely inadequate, and we would suggest that provision should be made for the bonding of the Chief Deputy and his cashier.

We have not checked any disbursements which have been made directly through the State Treasurer, as we understand that such vouchers have all been passed by a Board of Examiners and also the State Controller's office.

We shall be pleased to give you any further information which you may desire.

Yours very truly,

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

EXHIBIT "A."

CALIFORNIA FISH AND GAME COMMISSION, STATEMENT OF RECEIPTS AND DISBURSEMENTS YEAR ENDING JUNE 30, 1910.

Showing game preservation fund and fish commission fund combined (*law changed March 15, 1909*).

Game preservation fund. }
Fish commission fund. } *Fish and game preservation fund:*

Balance in hands of State Treasurer, July 1, 1908		$79,750 70
Less:		
June, 1908, expenditures		7,477 70
		$72,273 00
Receipts:		
Hunting licenses	$113,476 93	
Fishing licenses	6,647 50	
Fines	15,565 41	
Fish eggs sold	375 00	
		136,064 84
		$208,337 84
Disbursements:		
State Treasurer	$19,126 99	
Chief Deputy	112,557 83	
		131,684 82
Balance June 30, 1909		$76,653 02
Being:		
In hands of State Treasurer	$87,444 85	
Less:		
June, 1909, expenditures	10,791 83	
		$76,653 02
Support and maintenance of hatcheries fund:		
Appropriation for year	$20,000 00	
Disbursements by State Treasurer		$20,000 00
Restoration and preservation of game:		
Appropriation for year	$10,000 00	
Disbursements by State Treasurer		$10,000 00
Restoration and preservation of fish:		
Appropriation for year	$10,000 00	
Disbursements by State Treasurer		$10,000 00
Fund for fish repository in Tuolumne County:		
Balance July 1, 1908 (no change)		$200 05

EXHIBIT "B."

CALIFORNIA FISH AND GAME COMMISSION, STATEMENT OF RECEIPTS AND DISBURSEMENTS YEAR ENDING JUNE 30, 1910.

Fish and game preservation fund:		
Balance July 1, 1909		$76,653 02
Receipts:		
Hunting licenses	$126,734 35	
Fines	19,789 27	
Game Farm earnings	938 22	
		147,461 84
		$224,114 86
Disbursements:		
State Treasurer	$38,163 71	
Chief Deputy	112,632 94	
		150,796 65
Balance June 30, 1910		$73,318 21
Being:		
In hands of State Treasurer	$89,275 04	
Less:		
June, 1910, expenditures	15,956 83	
	$73,318 21	
Support and maintenance of hatcheries fund:		
Appropriation for year		$20,000 00
Receipts—Fishing licenses		21,982 50
		$41,982 50
Disbursements:		
State Treasurer	$32,302 75	
Chief Deputy	9,679 75	
		$41,982 50

REPORTS OF SUPERINTENDENT OF SISSON HATCHERY, SEASONS 1908 AND 1909.

SISSON, CAL., November 30, 1908.

Honorable Board of Fish Commissioners, for the State of California.

GENTLEMEN: In accordance with the instructions of your honorable Board, I herewith submit a brief report of the work done at Sisson Station during the years 1907–1908. It is with pleasure that I can report the station in a prosperous condition—due in a great measure to the able support given to me by your honorable Board and Chief Deputy. I will endeavor to outline the principal work that has been done at this station in the last two years. During the period since my last report the necessary repairs have been kept up, new ponds constructed, a pumping plant for irrigating the grounds and for washing the ponds with water under pressure (through a hose and nozzle), the erection of a poacher proof fence around the grounds, the construction of a new hatchery for salmon work, the building of a raceway below the ponds, are among the main improvements.

The electric lighting plant has been enlarged by the installation of a new dynamo, and a new set of carbonized troughs has been set up in the hatchery "C." The source of our water supply has been changed to a point lower down on Spring Creek. When the Commission purchased the "Watson Tract" of land a water right and ditch went with it. The head of this ditch was in Spring Creek, a couple of hundred yards below the head of the old canal. The ground slopes on an even incline toward the hatchery, and the two ditches approach each other until they are parallel at a point a quarter of a mile from the hatchery. There we turned the lower ditch into the old canal. This was done to secure a steadier flow of water. At the source of the old canal are two other ditches that all have their source in the same dam, and as the flow was increased or decreased by the owners of these ditches, it caused us more or less trouble at the hatcheries, as we must have a steady flow of water. This change did not interfere with the flow of water in the old ditch or canal. The same amount has been in use at this station for the past seven years.

Several of the ponds were changed and new ones built to accommodate our increasing stock of brood fish. We now have at this station 45 ponds and four hatcheries for the rearing of fish. The hatcheries contain 300 troughs that are in almost constant use. A team of horses and wagons have been purchased, and they have proved to be an economical investment. In the fall of 1907 we erected the fourth hatchery, "D," as we did not have room enough to handle the extra number of trout eggs that we were expecting to take, along with the salmon eggs. A building 50 by 75 feet was put up over one of the salmon batteries. It is a plain, substantial structure, with a corrugated iron roof. It is fitted up with the old troughs used in the salmon battery, and has been in use ever since it was built. Hatchery "A," the first building erected on the Sisson Hatchery grounds in the fall of 1888, is now in an unsafe condition. The foundation, sills, and floor are badly rotted, and the tank and wall on the north side are in the same condition. I would respectfully recommend that a new hatchery be built on a larger and more modern plan this coming season. The building is not safe any longer. We have repaired it several times in the last ten years. It is now in a state of decay beyond any repairs that are practical. In its place should be erected a modern building, fitted up with the latest and more improved system of hatching and rearing troughs.

The output of fry from Sisson Hatchery, for the years 1907–1908 is as follows:

1907.

Salmon fry	63,697,000
Steelhead trout fry	135,000
Rainbow trout fry	2,003,000
Eastern brook trout fry	826,000
Loch Leven trout fry	268,000
Sunfish	1,000
Rainbow eggs sent to the Philippines	25,000
	66,955,000

1908.

Rainbow trout fry	3,440,000
Eastern brook trout fry	1,780,000
Loch Leven trout fry	540,000
Steelhead trout fry	170,000
Total trout fry	5,930,000
Salmon fry	54,465,000
	60,395,000
Making a grand total for the two years of	127,349,000

In the spring of 1907 it was decided that the California Fish Commission and the Federal Bureau of Fisheries should coöperate in the work of collecting eggs on the Shasta River. A site was selected at the dam of the Siskiyou Electric Power Company, four miles from Yreka, Siskiyou County, as the place was favorable for a good take of eggs whenever there was a normal flow of water in the river, but, like all streams, when there is a flood it makes it difficult to operate a trap. The object of this station was to secure eggs from wild fish to improve the stock of fish in the ponds, both in the Eastern States and at Sisson Hatchery. On account of the season being late and the stream unusually high, only a small lot were taken. Three hundred and seven thousand of the eggs were sent to Eastern hatcheries by the Federal Bureau of Fisheries. In the spring of 1908 Shovel Creek Station of the California Fish Commission, an auxiliary of the Sisson Hatchery since 1890, was opened for the purpose of collecting rainbow trout eggs. This station had not been in operation for several years, as we had as many eggs from the ponds as our time and funds would allow us to collect and distribute. But with the prospects of a distributing car that the last legislature had provided for, we determined to increase our output by operating Shovel Creek Station.

We collected 1,350,000 rainbow eggs. Ten per cent of these were hatched at Shovel Creek Station and distributed in the creek above the hatchery. This was done to keep up the supply of fish in this, one of the finest streams for large spawning fish on the coast. Two hundred and fifty thousand eggs were sent to Germany at the request of the United States Bureau of Fisheries, and the remainder, 965,000, less the loss in eyeing, were shipped to Sisson. We again operated on the Shasta river in the winter and spring of 1908, and collected 836,000 eggs. The percentage of fertilization was small, owing to certain conditions that could not be avoided at the time. The Bureau of Fisheries took their share, 300,000, and shipped them to their different hatcheries on this coast and in the East. Since the distributing car was put in use this summer the fry have been held longer, and consequently they were larger than usual this season. During the latter part of the shipping season the fry averaged from 2½ to 3½ inches in length. This is as large as they can be successfully handled. The car greatly facilitated the work. It carried the fish in better condition than the old way of using dippers and cans, and allowed us to distribute a great many more fish than could have been done under the old system.

We can now increase our pond system and distribute more fry each season, so that every section of the State can be supplied. The pond fish have thrived and furnished the hatcheries with good eggs, cheaper than they could be collected from wild fish. By getting the eggs from the pond fish, we are insured of a never-failing supply of eggs without disturbing the fish in their natural state. The number of fish in the ponds at Sisson Hatchery December 1, 1908, are as follows:

Adult Eastern brook trout	5,300
Two-year-old Eastern brook trout	4,000
Yearlings	2,000
Fry	20,000
Total Eastern brook trout	31,300
Adult rainbow trout	11,150
Two-year-old rainbow trout	6,000
Yearlings	5,000
Fry	50,000
Total rainbow trout	72,150
Adult Loch Leven trout	4,000
Two-year-old Loch Leven trout	1,200
Yearlings	1,000
Fry	15,000
Total Loch Leven trout	21,200
Sunfish	3,000
Eighteen-months-old grayling	900
Adult steelhead trout	200
	10,000
	14,100
A total of all varieties	138,750

We have deposited a larger number of fry in the nurseries this season than usual, as we desire to select from them a strong, healthy stock of breeders. So far we have not heard of any results of the grayling fry distributed in the streams of this county. I have not had the time to make a personal investigation of the streams in which they were planted, but inquiry has failed to find any one who has seen or caught one. Probably we shall find them this coming season. They were planted in streams where they should thrive. Those in the ponds appear to be in good condition, and if we can keep them free from disease until they are old enough to breed, I am of the opinion that we will be able to get them introduced into our mountain streams.

It has been several years since we have had any Eastern brook trout eggs from wild stock, and I think that it would be advisable to get a small shipment from one of the Eastern stations, if the same can be procured, to improve our stock of pond fish. Eggs from wild Eastern trout can be gotten in this State another season, or from some of the lakes in Nevada.

The stock of Loch Leven trout that have been at this station for twelve years past have not degenerated, and those in the ponds appear to be as strong and vigorous now as was the original stock when they were first brought here. Like all other species of trout, they are subject to various diseases, but domestication and artificial food do not appear to change their condition.

The rainbow trout in our ponds are in good condition and show no signs of degeneracy. The only noticeable feature of the rainbow trout that has decended for several generations of pond fish is the increasing brightness in their colors and a changed appearance of their spots. Considerable could be written on this subject, but time and a closer study are necessary before going deeper into it. This is a study that will interest the ichthyologists and will be given more attention from now on.

In closing this brief report on the work of this station I beg to say that the encouragement and advice given to me by your honorable Board and Chief Deputy has greatly assisted me in making the work of this station a success.

Respectfully submitted.

[Signed.] W. H. SHEBLEY,
Superintendent Sisson Hatchery.

SISSON, CAL., September 1, 1910.

Honorable Board of Fish and Game Commissioners for the State of California.

GENTLEMEN: The Superintendent of the Sisson Hatchery submits the following report of the work and operations at Sisson Station for the years 1909-1910, up to September 1st.

The most important work during the last two years has been the construction of a new hatchery building, a cottage for the use of the foreman, a new feed house, wagon shed, a shed over the salmon rearing troughs, new flume and tanks at Shovel Creek Station; the building of a cabin, racks, and trap at Bogus Creek egg-collecting station; the removal of the pond keeper's cottage from the upper to the lower end of the hatchery grounds; the building of a new road and walk from the main hatchery (A) to the county road; the placing of redwood troughs in hatcheries "C" and "D," and the improvement in the pond work and the increase in the number of fish raised during the last two seasons.

After your honorable Board had approved the recommendations mentioned in the report of 1908 for the construction of a new hatchery to take the place of hatchery "A" that had been constructed in 1888, and was in such a state of decay that further attempts to repair it were useless, I submitted a plan of a hatchery 145 feet in length and 42 feet in width, to contain 100 hatching troughs, office, laboratory, also rooms for the men upstairs, storage rooms for tools, apparatus, etc.

The plan of the new hatchery was on entirely new lines, being similar to the plan I made for you two years ago for the Tallac Hatchery; that is, in regard to the arrangements of the troughs. The new system gives each trough a supply of pure water direct from the distributing tank. The troughs are arranged in sections of two each, placed side by side. There is an aisle between each section, and the main aisle or passageway is in the center of the building instead of on the sides, as in the arrangements of the old style of buildings.

The new hatchery was well built, all of the material used in its construction being selected stock. The lumber was selected for its durability and strength. The lumber in the troughs was all selected from heart red fir logs, and will last for years.

The building is well proportioned and on good architectural lines. The work of razing the old hatchery building was begun in the latter part of August, 1909. After the removal of the old building, and the foundation of the new one had been laid, the work was delayed for nearly three weeks on account of the serious illness of a member of the superintendent's family. Owing to the nearness of the dwelling to the hatchery site, the least noise would have been serious.

The rainy season began in the latter part of September, unusually early, and continued until December 1st. The work on the new hatchery was necessarily slow. The interior of the building had to be arranged first, and as much of it finished as possible, so as to have a place to hatch the trout eggs that were coming on during November and December.

During December and January the ground was covered with snow, and when the weather was not blustering and sleeting it was very cold, freezing the lumber whenever it happened to be damp and making it difficult to carry on the work. The men worked patiently under the prevailing conditions and finished the more important part of the work during the latter part of January. The new cottage was constructed during the same time. The old one (pond keeper's cottage) was removed early in the fall to the lower part of the grounds, so that the new one could be erected on the same site. The new cottage is well built, the material being selected for durability. The plan of this cottage was the same as the plan of the superintendent's cottage at the State Game Farm. It has five rooms, laundry, bath, fireplace and other modern conveniences.

We used the troughs taken from the old hatchery, that is, those that were not too much decayed, to make a battery of salmon rearing troughs. The iron roofing from the old hatchery was used to make a shed over these troughs. This battery was built to make more room for the salmon embryos, so as to relieve hatcheries "C" and "D."

Hatchery "A," the new building, will be used exclusively for the hatching and rearing of trout, particularly the eyeing of the eggs will be done in this building, as it can be kept in better condition than the buildings with the old style of boxes.

During the summer and fall of 1909, the troughs in hatcheries "C" and "D," having been made out of soft timber, became very spongy, except a few that were carbonized a couple of years before, and it was deemed best to remove them, as the fry could not be kept healthy in troughs made from such material. I recommended that the troughs be changed and better ones substituted. My recommendation was approved by your honorable Board. After the salmon fry had been released, I tried to get selected lumber from the mills here, but as it was early in the spring there was not any chance to get the material necessary here, and redwood lumber was used.

We built 130 new troughs and put them into hatcheries "C" and "D." Ninety were put into "C" and 40 into "D." The other troughs in "D" were in good order.

In June, 1910, we built a straight road from the entrance to the hatchery grounds to the county road opposite, a distance of 630 feet. A sidewalk was also built of plank running parallel to it for the convenience of pedestrians.

The Sisson Tavern Company removed one of their barns, so that the Commission could build the road and walk straight from the hatchery to the county road. Owing to the uncertainty of getting rainbow eggs from the Shasta River Station, on account of the tremendous floods that came down that stream every spring, I determined to put in a rack and trap in Bogus Creek, four miles north of Thrall, on the line of the Klamath Lake Railroad. I had examined this creek years ago for the purpose of collecting rainbow trout eggs, but, owing to the almost impassable trail that leads down that canyon, I gave the plan up until after the construction of the Klamath Lake Railroad. In January, 1910, I ordered the material for a rack and trap, had it framed at Sisson, and shipped to Bogus Creek, where Mr. A. E. Doney, with the necessary number of assistants, put them in place.

We also put up a small cabin for the men. Mr. Doney successfully handled the trap and other work connected with the station. We secured a lease for the privilege of operating on the creek and land enough for the tanks and cabin. The lease gives the Commission the privilege of operating an egg-collecting station each season for the period of ten years, the station to be closed each season by April 1st.

This is late enough, for the spawning season on the Klamath River and its tributaries is practically over. The work of carrying the eggs from the canyon where the trap is located to the railroad bridge was very hard work. After the eggs were brought to the railroad track they had to be taken on a hand car to Thrall, where they were transferred to the Southern Pacific Railroad, and then taken to Sisson.

The operations at this station were very successful. There were collected 2,000,000 fine rainbow trout eggs. The fertilization was good. Mr. Requa spawned the fish and cared for the eggs en route to Sisson.

Shovel Creek Station furnished 1,100,000 eggs. A larger number of eggs would have been taken, but a rise of water in the creek, which ran over the racks, allowed a great many fish to escape. Ten per cent of the eggs taken at Shovel Creek were hatched there, and the fry distributed in the creek. We took 5,000,000 eggs from the pond fish. This was the largest number of eggs taken from the pond fish since the pond work was begun. These, with the eggs from the Klamath River stations, gave us a total of 8,000,000 rainbow trout eggs for the season. They were hatched in good condition, and the fry show the benefit of the new arrangement of the troughs. Taking them as a whole, they are the finest lot of fish that were ever handled at this station.

The output of salmon fry for the season of 1909–1910 was lighter than it has been for several years past, owing to high water in the rivers and streams tributary to the Sacramento River, on which the United States Bureau of Fisheries stations are located. The high water washed out the racks and a large number of spawning salmon escaped. This caused the take of salmon eggs to be short for this season. We received 22,500,000 as the total take of the season. These were given extra care during the hatching period, and the fry were liberated under the most favorable conditions.

They will give better results than a larger number of eggs would if not handled so systematically. We have built a couple of new ponds in the last two years, making a total of forty-seven ponds and nurseries on the grounds.

The total number of fish on hand in the ponds at Sisson Station September 1, 1910, is as follows:

Rainbow trout:	
Adults	11,000
Two years old	2,000
One year old	8,000
Fry	40,000
Total	61,000

Eastern brook trout:	
Adults	7,000
Two years old	1,000
One year old	3,000
Fry	25,000
Total	36,000

Loch Leven trout:	
Adults	4,500
Two years old	1,300
One year old	8,000
Fry	20,000
Total	33,800
Adult grayling	100
Adult golden rainbow	20
Adult land-locked salmon	25
Adult sunfish	200
Two-year-old steelhead	100
Steelhead fry	10,000
Salmo mykiss fry	10,000
Golden rainbow fry	250
Total	20,695
	157,495

The number of fry distributed during the season of 1909 from Sisson Station is as follows:

Salmon fry	22,500,000
Rainbow trout fry	3,083,500
Eastern brook fry	1,220,000
Loch Leven fry	955,000
Steelhead fry	168,000
Total	27,926,500

The distribution of trout for the season of 1910 will reach about 8,000,000. The work of distribution is going on very successfully. The fry are in excellent condition and carry well. Owing to the drought it will be late in the season before the shipping is over. There is a scarcity of water in a great many streams, and the applicants will have to wait until the rain season begins before the fish can be distributed. It is too early to make any forecast as to the number of eggs expected from the salmon run this fall and winter. It depends on the weather—if sufficient rain should fall before the middle or twentieth of October, we can expect a good take of eggs at the Bureau of Fisheries stations.

The trout fry hatched at Sisson Station this season, of which a number are distributed, is as follows:

Rainbow	5,205,000
Eastern brook	1,000,000
Loch Leven	1,484,000
Steelhead	303,000
Salmo mykiss	150,000
Total	8,142,000
Rainbow eggs hatched at Shovel Creek	120,000
Grand total	8,262,000
Eggs shipped to other stations from Sisson, to be deducted from total—to Brookdale	25,000
Eggs shipped to other stations from Sisson, to be deducted from total—to Wawona	50,000
	75,000

Our next work was to get the seining ground in shape, which was done, and we commenced operations with the seine on the night of April 8th and continued until May 27th, with ranging success. The weather during that period was very favorable for our work. We caught 5,045 trout (males, 2,284; females, 2,761). The males averaged about $1\frac{3}{4}$ and the females $1\frac{1}{2}$ pounds in weight. Number of females spawned, 2,700, averaging nearly 1,600 eggs to the fish. The total number of eggs taken for the season was 4,115,000. Shipped 400,000 eggs away from the lake—Wawona receiving 250,000, Morrill and Denton, Verdi, Nev., 150,000. The latter was given in exchange for rainbow eggs and Eastern brook trout fry, which were planted in the streams and small lakes in this vicinity. The work of distributing the fry at the different stations was taken up in July and continued until all were planted. Nearly all of the mountain lakes in this vicinity were stocked, and good reports have been received. Received instructions to close the stations as soon as the distribution was over. Glen Alpine was closed August 7th; Tallac, September 24th, and Tahoe on October 10th, so that the necessary improvements could be made at this station (Tahoe Hatchery) before the stormy weather set in. Mr. Matt Green was employed to renew the foundations for hatchery and cottage, and to cover the outside of the buildings with rough rustic and stain the same, and also build new porches. This work was completed on November 8th, and Mr. Green and crew moved to Tallac to build a four-room cottage for the attendants at the Tallac Hatchery. This work was completed during the early winter. I reported in the office at San Francisco, took a vacation, and was ordered to report to Mr. W. H. Shebley, superintendent Sisson Hatchery, which I did, arriving there on December 8th and remained during the winter months.

Season 1910.—Received instructions from your honorable Board on March 10th to start from Sisson for Tahoe to open the stations for the season of 1910; arrived in San Francisco on March 11th and proceeded to Tahoe on March 12th, arriving there on the evening of March 14th. Upon my arrival in Truckee I found that the Lake Tahoe Railway and Transportation Company people had their road open, so it made it much easier to reach the lake than last year. My assistants, Messrs. Anderson, Calkins, West and Shaw, were in Truckee and joined me on the trip. March 15th visited the hatchery, and found everything in good shape and very little snow for this time of year. Crew started for Tallac to place hatchery in order and commence operations with the seine March 16th. Inspected the buildings and found everything in good order, also that Mr. Green had built a very neat cottage for the attendants.

March 17th to 26th: Routine work, getting things in shape at the hatchery and seining ground; also building new bulkhead at the mouth

In the work of construction at Sisson Hatchery, Chief Deputy Vogelsang greatly assisted me in furnishing practical ideas in regard to the color schemes in painting and other valuable suggestions. His untiring zeal has in a great measure helped me to make Sisson Station one of the most successful fish cultural stations in the United States. We are now prepared to carry on successfully the most modern and improved methods of fish cultural work. The kindly appreciation of my work by your honorable Board has been fully realized. It has encouraged me to do my very best for the interests of the Commission and the State.

Respectfully submitted.

W. H. SHEBLEY,
Superintendent Sisson Station.

REPORT OF SUPERINTENDENT TAHOE HATCHERIES.

YEARS 1908-1909.

To the Honorable the Board of Fish and Game Commissioners.

GENTLEMEN: I herewith submit by detailed report of the work covering the seasons of 1909 and 1910.

Acting under instructions from your honorable Board, I started for Tahoe on March 5, 1909, to open the stations for the spring and summer work. March 6th arrived in Truckee with my assistants, Messrs. Anderson, Calkins, West, and Shaw. We proceeded to Tahoe City in sleighs, making the trip in seven hours. The road was in very bad shape and we had to walk several miles. Encountered snow from three to twelve feet deep en route.

March 7th I inspected the Tahoe Hatchery and buildings; found everything in good shape.

March 8th I started for Tallac with my crew to complete the interior of the new hatchery that was built during the latter part of the season of 1908, and to place the seining ground in shape to commence operations with the seine. The new hatchery building was erected for the State by Messrs. Lawrence and Comstock of Tallac, and the setting of the troughs and some unfinished outside work was done under contract by Mr. Matt Green. The building is a very substantial one. It is forty feet wide by seventy feet long, with a half pitch roof, and is covered on all sides with shingles, giving it a neat and attractive appearance. It has forty troughs, with hatching capacity for about three million eggs. It is supplied with water from Taylor Creek. A concrete dam was built on Taylor Creek some nine hundred feet from the building. The water is conveyed from that point to the hatchery in an eight-inch iron pipe, which is laid under ground practically all of the way.

of Taylor Creek to facilitate the seining. March 27th commenced operations with seine and continued until May 8th, with grand success. The present season has been the banner season in egg-collecting on Lake Tahoe in the history of the California Fish and Game Commission, as the following results will show: Number of fish caught, 7,250 (males, 2,981; females, 4,342); males averaging nearly 2 pounds and females 1½ pounds. Number of females spawned 4,194, they averaging about 1,500 eggs to the fish. Total number of eggs taken 6,130,000, of which 1,680,000 were shipped to the following State hatcheries: Sisson, 100,000; Wawona, 250,000; Ukiah, 400,000; Marin County, 100,000, and 830,000 exchanged with Morrill and Denton of Verdi, Nev., for Eastern brook trout fingerlings.

Our best spawning day was on May 7th, when we collected 965,000 eggs. We had several days during our spawn collecting seasons that over half million eggs were taken. The number of eggs hatched at the Tahoe stations this season will be about 4,000,000, distributed and hatched as follows: Tallac Hatchery, 2,250,000; Tahoe Hatchery, 1,050,000; Glen Alpine, 700,000; have been distributing fry from the Tallac and Glen Alpine stations for the past week to relieve the crowded condition of the troughs. The work of distribution at all the stations will be taken up in the near future and continued until all of the fry are planted.

Would respectfully recommend at this time that the Tahoe Hatchery have a new floor, head box and set of troughs; also that the water supply be placed in first-class shape and an iron pipe installed to convey same from the springs to the building. This work can be done at the end of the coming season.

Respectfully submitted.

E. W. HUNT,
Superintendent.

Tahoe City.

REPORT OF SUPERINTENDENT OF EEL RIVER HATCHERY.

Grizzly Bluff, July 13, 1909.

To the Honorable the Board of Fish and Game Commissioners.

Gentlemen: The following is my report of the steelhead work for the season of 1909. The fish started running earlier this season than usual, making their first appearance in Price Creek on February 16th. The run continued until April 23d. The season was a very satisfactory one, and I took 438,800 eggs. The fry were distributed in Howe, Price, and Williams creeks.

The following is a summary of the work:

Total number of eggs taken	438,800
Total number of eggs eyed	373,000
Loss in hatching and rearing	24,000
Fry distributed—	
Price Creek	168,500
Howe Creek	174,500
Williams Creek	6,000
Total	349,000
Number of fish caught—	
Males	80
Females	107
Number of females spawned	94
Average weight of fish—	
Males	6 pounds
Females	11 pounds
Highest temperature of water	63 degrees
Lowest temperature of water	41 degrees

In conjunction with the work of taking steelhead eggs this season, I have replaced the shake roof on the hatchery with corrugated galvanized iron, as the old roof was in a very shaky condition. This will be a great improvement. I have also built a new settling tank, and replaced the old auxiliary flume with a new one built of redwood. These improvements were much needed ones and have added to the efficiency of the station very much.

Yours very respectfully, W. O. FASSETT.

GRIZZLY BLUFF, June 11, 1910.

To the Honorable the Board of Fish and Game Commissioners.

GENTLEMEN: The following is my report for the season of 1910 on the steelhead work at Eel River Station:

The fish made their first appearance on February 21st, and prospects looked very favorable for a good average take, but lack of water in Price Creek at the time the fish were running caused the main body of the fish to spawn in the river, with the result that my take was very disappointing. However, the 200,000 eggs sent me from the Ukiah Station swelled my total to respectable proportions, and enabled me to distribute a nice lot of fish in this vicinity. The run of females was much larger than the males, and at the end of the season a number of the females had to be released owing to the lack of males.

The eggs received from Ukiah have provided some interesting data, and thinking it may be of interest I am including it in my report. The eggs were taken by Mr. La Motte on the 11th day of April and were received by me on the 28th of the same month. Upon being placed in the water several hundred hatched, although they were only seventeen days old. I placed all these alevins by themselves in a separate trough, and preserved specimens of them, and also of the others which hatched on the 3d of May, seven days later, and continued preserving specimens of each lot at intervals of a week until they were distributed. In comparing the advancement, the prematurely hatched alevins matured the same as those hatched a week later, and with no greater loss, and no apparent difference; the average temperature of the water during this period was 61 degrees.

Eel River at present is simply alive with young salmon about 3½ inches long, and their jumping out of the water all along the river is best illustrated by the heavy fall of rain drops on the river's surface. In the small creeks young steelheads about 1¼ inches long can be seen in countless numbers. All in all, every indication points to a still greater increase of fish in Eel River.

During the time I have been engaged in the steelhead work I have, with your approval, replaced eleven sections of old troughs, which have been in use twelve years, and am now engaged in replacing the platform and making other necessary repairs at the dam. After regrading the main flume where it has settled in places, and moving it in closer to the bank where it runs along the bluff, this station will again be in first-class condition.

The following is a summary of the season's work:

Total number of eggs taken	172,000	
Total number of eggs eyed	154,800	
Loss in hatching and rearing	17,000	
Eggs received from Ukiah Hatchery	200,000	
Loss in hatching and rearing	20,000	
Fry distributed—		
Price Creek	167,400	
Howe Creek	163,400	
Sweasy's Lake	4,000	
Total	334,800	
Number of fish caught—		
Males	32	
Females	65	
Number of females spawned	47	
Average weight of fish—		
Males	4	pounds
Females	6⅓	pounds
Lowest temperature of water	44	degrees
Highest temperature of water	70	degrees

Yours very respectfully,

W. O. FASSETT.

GRIZZLY BLUFF, June 13, 1909.

To the Honorable the Board of Fish and Game Commissioners.

GENTLEMEN: The following is my report of the salmon hatch at this station for the season commencing December 7, 1908, and ending March 6, 1909. The eggs arrived in four shipments, as follows: December 7th, 1,000,000; December 27th, 1,500,000; January 5, 1909, 1,500,000 from

Mill Creek, and December 21st, 1,440,000 from Battle Creek, making a total of 5,440,000 salmon eggs received. The hatch was successful, and I planted in Eel River and Price Creek 5,374,200 good healthy fry.

The following is a summary of the work:

Eggs received	5,440,000
Eggs lost	49,600
Fry lost	16,200
Fry distributed	5,374,200

On the 17th of February, 1909, I received 52,500 silver salmon eggs from the Santa Cruz Hatchery. The eggs arrived in fair condition, with a loss of 1,800 en route. The subsequent loss of eggs to the time of hatching was 4,000, making a total loss of 5,800. There was practically no loss in rearing, so I distributed 46,700 fry. All of them were planted in Price Creek.

The following is a summary of the hatch:

Eggs received	52,500
Eggs lost	5,800
Fry distributed	46,700

Yours very respectfully,

W. O. FASSETT.

GRIZZLY BLUFF, June 11, 1910.

To the Honorable the Board of Fish and Game Commissioners.

GENTLEMEN: The following is my report of the salmon hatch at this station for the season commencing December 5, 1909, and ending March 23, 1910. The total number of eggs received was 6,000,000, and were received in four shipments, as follows: December 5th, 1,471,000; December 26th, 1,438,500; December 31, 1909, 1,541,000, and January 10, 1910, 1,549,500. The eggs were all shipped from Mill Creek and were as near perfect as possible, the loss being practically nothing. The hatch was most successful, and the fry were distributed in Price Creek and Eel River.

The following is a summary of the work:

Eggs received	6,000,000
Eggs lost	30,255
Fry lost	practically none
Fry distributed	5,969,745

Yours very respectfully,

W. O. FASSETT.

HUNTING LICENSE SALES BY COUNTIES AND FISH AND GAME COMMISSION.

In Fiscal Year 1907-1908.

Name of county.	At $1.00. Amount.	At $10.00. Amount.	At $25.00. Amount.	Total.
Alameda	$5,441 00		$325 00	$5,766 00
Alpine	60 00			60 00
Amador	1,079 00			1,079 00
Butte	2,325 00		50 00	2,375 00
Calaveras	972 00			972 00
Colusa	1,364 00			1,364 00
Contra Costa	1,560 00		100 00	1,660 00
Del Norte	322 00			322 00
El Dorado	1,062 00		25 00	1,087 00
Fresno	3,693 00		25 00	3,718 00
Glenn	698 00			698 00
Humboldt	2,818 00		25 00	2,843 00
Imperial	559 00			559 00
Inyo	806 00	$110 00		916 00
Kern	2,070 00		25 00	2,095 00
Kings	1,000 00	10 00		1,010 00
Lake	1,192 00		25 00	1,217 00
Lassen	444 00	80 00		524 00
Los Angeles	12,140 00	180 00	225 00	12,545 00
Madera	720 00		25 00	745 00
Marin	749 00	40 00	150 00	939 00
Mariposa	385 00	10 00		395 00
Mendocino (county clerk failed to act in this year).				
Merced	1,305 00	20 00	50 00	1,375 00
Modoc	450 00			450 00
Mono	184 00	10 00		194 00
Monterey	1,897 00	40 00		1,937 00
Napa	1,362 00		50 00	1,412 00
Nevada	1,260 00			1,260 00
Orange	1,946 00			1,946 00
Placer	1,523 00	10 00	50 00	1,583 00
Plumas	605 00	40 00		645 00
Riverside	2,342 00	10 00	125 00	2,477 00
Sacramento	3,581 00	20 00	250 00	3,851 00
San Benito	727 00	10 00		737 00
San Bernardino	3,304 00	10 00		3,314 00
San Diego	2,950 00	20 00	50 00	3,020 00
San Francisco	1,870 00		250 00	2,120 00
San Francisco (commission)	12,201 00	80 00	950 00	13,231 00
San Joaquin	2,750 00	10 00	25 00	2,785 00
San Luis Obispo	1,498 00	10 00	25 00	1,533 00
San Mateo	1,363 00		150 00	1,513 00
Santa Barbara	1,768 00	30 00	75 00	1,873 00
Santa Clara	3,805 00		50 00	3,855 00
Santa Cruz	2,020 00		25 00	2,045 00
Shasta	1,970 00		150 00	2,120 00
Sierra	321 00			321 00
Siskiyou	2,716 00	40 00	125 00	2,881 00
Solano	1,982 00	10 00	50 00	2,042 00
Sonoma	3,980 00		50 00	4,030 00
Stanislaus	1,112 00		50 00	1,162 00
Sutter	578 00	10 00		588 00
Tehama	1,180 00			1,180 00
Trinity	512 00	10 00		522 00
Tulare	2,380 00	70 00	75 00	2,525 00
Tuolumne	992 00		100 00	1,092 00
Ventura	1,509 00	30 00	25 00	1,564 00
Yolo	1,429 00		25 00	1,454 00
Yuba	901 00			901 00
Totals	$113,732 00	$920 00	$3,775 00	$118,427 00

HUNTING LICENSE SALES BY COUNTIES AND FISH AND GAME COMMISSION—Continued.

IN FISCAL YEAR 1908-1909.

Name of county.	At $1.00. Amount.	At $10.00. Amount.	At $25.00. Amount.	Total.
Alameda	$4,184 00		$175 00	$4,359 00
Alpine	60 00			60 00
Amador	880 00			880 00
Butte	2,394 00	$20 00		2,414 00
Calaveras	736 00			736 00
Colusa	1,208 00			1,208 00
Contra Costa	1,288 00			1,288 00
Del Norte	369 00			369 00
El Dorado	947 00			947 00
Fresno	3,502 00	30 00	125 00	3,657 00
Glenn	672 00			672 00
Humboldt	2,550 00	20 00	25 00	2,595 00
Imperial	499 00	10 00		509 00
Inyo	816 00	100 00		916 00
Kern	2,511 00	10 00		2,521 00
Kings	950 00			950 00
Lake	929 00			929 00
Lassen	421 00	20 00		441 00
Los Angeles	12,055 00	70 00	100 00	12,225 00
Madera	619 00			619 00
Marin	800 00	30 00	75 00	905 00
Mariposa	340 00	20 00		360 00
Mendocino	832 00			832 00
Merced	1,341 00		150 00	1,491 00
Modoc	413 00			413 00
Mono	171 00	10 00		181 00
Monterey	1,958 00	10 00		1,968 00
Napa	1,398 00		25 00	1,423 00
Nevada	1,524 00			1,524 00
Orange	1,797 00		25 00	1,822 00
Placer	1,509 00		25 00	1,534 00
Plumas	608 00	10 00		618 00
Riverside	2,268 00	30 00	150 00	2,448 00
Sacramento	3,355 00	10 00	150 00	3,515 00
San Benito	793 00			793 00
San Bernardino	3,061 00	10 00		3,071 00
San Diego	2,854 00	50 00	25 00	2,929 00
San Francisco (county clerk)	1,202 00		50 00	1,252 00
San Francisco (commission)	13,822 00	170 00	775 00	14,767 00
San Joaquin	3,025 00		25 00	3,050 00
San Luis Obispo	1,528 00		25 00	1,553 00
San Mateo	1,299 00			1,299 00
Santa Barbara	1,701 00	20 00	75 00	1,796 00
Santa Clara	3,193 00			3,193 00
Santa Cruz	1,967 00	10 00	50 00	2,027 00
Shasta	2,083 00			2,083 00
Sierra	239 00			239 00
Siskiyou	2,578 00	20 00	150 00	2,748 00
Solano	1,873 00		75 00	1,948 00
Sonoma	3,967 00	10 00	50 00	4,027 00
Stanislaus	1,182 00			1,182 00
Sutter	540 00			540 00
Tehama	1,151 00	10 00		1,161 00
Trinity	506 00			506 00
Tulare	2,578 00		125 00	2,703 00
Tuolumne	1,027 00		25 00	1,052 00
Ventura	1,452 00	10 00		1,462 00
Yolo	1,383 00		25 00	1,408 00
Yuba	832 00			832 00
Totals	$111,740 00	$710 00	$2,500 00	$114,950 00

HUNTING LICENSE SALES BY COUNTIES AND FISH AND GAME COMMISSION—Continued.

In Fiscal Year 1909-1910.

Name of county.	At $1.00. Amount.	At $10.00. Amount.	At $25.00. Amount.	Total.
Alameda	$5,614 00	$10 00	$100 00	$5,724 00
Alpine	36 00			36 00
Amador	920 00		25 00	945 00
Butte	2,394 00		25 00	2,419 00
Calaveras	734 00			734 00
Colusa	1,270 00			1,270 00
Contra Costa	1,246 00		50 00	1,296 00
Del Norte	312 00			312 00
El Dorado	864 00			864 00
Fresno	4,059 00	10 00	125 00	4,194 00
Glenn	746 00		50 00	796 00
Humboldt	3,056 00			3,056 00
Imperial	445 00			445 00
Inyo	1,025 00	30 00		1,055 00
Kern	3,550 00			3,550 00
Kings	1,233 00			1,233 00
Lake	1,028 00			1,028 00
Lassen	468 00		50 00	518 00
Los Angeles	12,779 00	80 00	250 00	13,109 00
Madera	783 00	10 00		793 00
Marin	718 00	20 00	25 00	763 00
Mariposa	325 00			325 00
Mendocino	1,301 00	10 00	25 00	1,336 00
Merced	1,470 00	10 00	50 00	1,530 00
Modoc	406 00			406 00
Mono	185 00	50 00		235 00
Monterey	2,219 00	20 00		2,239 00
Napa	1,725 00		300 00	2,025 00
Nevada	1,581 00	20 00		1,601 00
Orange	2,200 00			2,200 00
Placer	1,686 00		100 00	1,786 00
Plumas	448 00	10 00		458 00
Riverside	3,227 00	20 00	100 00	3,347 00
Sacramento	3,418 00	20 00	150 00	3,588 00
San Benito	1,050 00	10 00		1,060 00
San Bernardino	3,594 00		25 00	3,619 00
San Diego	3,349 00	30 00	75 00	3,454 00
San Francisco	915 00		100 00	1,015 00
San Francisco (commission)	15,971 00	200 00	1,050 00	17,221 00
San Joaquin	3,220 00		25 00	3,245 00
San Luis Obispo	1,341 00			1,341 00
San Mateo	1,409 00		25 00	1,524 00
Santa Barbara	1,703 00	50 00	50 00	1,803 00
Santa Clara	3,487 00		125 00	3,612 00
Santa Cruz	1,970 00	10 00	50 00	2,030 00
Shasta	2,098 00	40 00	25 00	2,163 00
Sierra	164 00			164 00
Siskiyou	2,728 00	40 00	75 00	2,843 00
Solano	1,522 00		75 00	1,597 00
Sonoma	4,340 00		50 00	4,390 00
Stanislaus	1,415 00			1,415 00
Sutter	631 00			631 00
Tehama	1,115 00	20 00		1,135 00
Trinity	616 00			616 00
Tulare	2,923 00		75 00	2,998 00
Tuolumne	986 00		50 00	1,036 00
Ventura	1,782 00	30 00	50 00	1,862 00
Yolo	1,450 00		50 00	1,500 00
Yuba	960 00			960 00
Totals	$124,210 00	$750 00	$3,400 00	$128,450 00

NOTES ON THE STRIPED BASS IN CALIFORNIA.

By N. B. Scofield.

The striped bass is to be found in the San Francisco Bay region or in the lower Sacramento or San Joaquin rivers, in varying numbers, in any month of the year. In the lower rivers, however, more of them are caught in the spring and autumn.

The spring run, as it is termed, is mostly of mature or "spawn bass," evidently ascending the rivers to spawn, and takes place during April, May and June. The average weight of these fish is between twelve and fifteen pounds. Thirty-pound fish are common and occassionally fifty and sixty-pound fish are taken.

The fall run on the rivers commences usually in September, the time being somewhat variable, and lasts from two weeks to two months. The fish of this run are smaller; immature bass, not often over five or six pounds, and according to the fishermen are bright, fresh run fish. The small sized bass are more apt to be found in schools, and the large catches in seine or gill net are usually of this size. In the lower bays they are often found on the flats voraciously feeding on schools of "sardines," making a sucking noise similar to that of the carp when feeding at the surface of the water. Often a school of these bass will run into one of the numerous tule lined sloughs of the Sacramento and San Joaquin delta, evidently attracted by the small river fish, which they drive before them, feeding as they go. Such schools are often indicated by a large number of shags, gulls, and fishing birds, which take this advantage to feed upon the maimed and frightened fish. Occasionally a fisherman is lucky enough to find one of these schools and will catch all his boat will hold.

The striped bass seems to be quite notional. It will suddenly appear on the river drifts and as suddenly disappear again, and no trace of them can be found. The fishermen who have now had fifteen or twenty years of experience fishing for them in these waters still trust mostly to chance in locating them, not being able to figure out their movements other than that rough water spoils the fishing, the theory being that they leave the flats and sloughs in rough weather and take to the deeper parts of the river where the nets do not reach them.

These bass are known to the river fishermen as winter bass. They ascend practically all of the sloughs at the mouths of streams, and run up the streams themselves.

The spring run. The San Joaquin River has been usually selected by this run, and they are taken by the fishermen in gill nets between Antioch and Bouldin Island. By far the largest portion of the spawn bass are taken near Bouldin Island. The fish are seldom taken above this point during the spawning season, but after spawning they ascend the rivers for long distances, or enter the sloughs or flooded lands in search of food, for after spawning they again become voracious feeders.

In the years 1903, 1904, and 1905 spawn bass were so plentiful about Bouldin Island that the fishermen, in order not to glut the market, agreed among themselves to catch no more than 600 pounds to the boat each twenty-four hours. They frequently got more than double this amount at one drift of a gill net.

Many of these fish were with mature eggs, and the fishermen all testify that the bottoms of their fish lockers were covered with eggs. Although bass with mature eggs may be found between December and June, almost all are found between the middle of April and the last of May. When the question of artificially hatching the striped bass came up, and a desirable place for a hatchery was looked for, Bouldin Island seemed the only logical place. A hatchery was built here in 1907, equipped with McDonald hatching jars and apparatus for getting the necessary water from the river. Before the hatchery was completed in April, many bass were being caught by the fishermen. The hatchery depended on the fishermen for any ripe eggs they might take. The fishermen took a lively interest and assisted in every way. Soon the capacity of the hatchery was taxed. At one time one fishing boat in one drift took eight female bass with eggs running freely, but there was room in the hatchery for the eggs of four of them only. From many lots of eggs no fish hatched. Other lots hatched 5 per cent only, and from that up to 50 and 60 per cent. One lot hatched a very high percentage of the eggs.

The results of the season's work were very encouraging, for hatching striped bass was still in the experimental stage, and the results in number of eggs hatched during this season of 1907 were much better than had been obtained on the Atlantic coast. It was not determined just why so many eggs failed to hatch, but it was laid to unsuitable water or some defect in hatchery method. The run of bass, while not up to the average, had been very satisfactory.

The season of 1908 found the hatchery better prepared for work and equipped with microscopes and apparatus for determining the cause of the failure of so many eggs to hatch. The run of bass was almost a failure, and the take of eggs so small that many of the experiments came to nothing for lack of eggs to experiment with.

It was soon found that the first cleavage of the germinal disc in the developing egg takes place about two hours after fertilization. So with the microscope it was possible to tell within two hours after the eggs were taken just what per cent was fertilized and developing. It was found that the loss of eggs was not due to bad water or any defective method of handling the eggs in the hatchery, but due to the nonfertilization of the eggs.

Where 40 per cent or more of the eggs from one fish were fertilized, they could be hatched without much difficulty. When there was a lower per cent of fertilization the unfertilized eggs became fungus infected, and between the twelfth and twenty-fourth hour after taking they became lighter than the water and rose and floated out of the jar with the current, no matter how slight this current was. These unfertilized eggs became attached to each other and to the live and developing eggs, and when they floated out of the jar they took many live eggs with them. In jars where there was only 10 per cent or 15 per cent of fertilized eggs, all might be lost in this way.

The milt of the male in nearly all cases showed active spermatazoa, thus narrowing the trouble down to the egg or the method of fertilization. Both the wet and the dry methods of fertilization were used, with no very appreciable difference. What difference there was, was in favor of the wet method. Frequently a lot of eggs were taken which did not swell properly in the water, showing they were immature.

Most of the lots of eggs taken were a pale green color, but a few lots had a golden green color. The golden shade is caused by a pigment in the germinal disc. It is probable that the eggs are not mature until this pigment is formed, but some lots hatched a small per cent of fish where the pigment did not show, and some with the pigment very noticeable hatched no fish. The better lots of eggs showed the pigment. We reached the conclusion that the trouble had been the eggs of the fish taken were slightly immature and incapable of fertilization.

We found that with the use of copper sulphate (1 part copper sulphate to 100,000 parts of water) it was possible to hatch lots where there was only 5 per cent of good eggs. The fungus growth on the outside of the bad eggs was killed and the good eggs would not adhere to them. A rather strong current could be turned on and the good eggs would remain in the jar and the bad ones would mostly pass out. The fish hatched from these eggs were just as strong as those hatched at the same time without copper sulphate. The young fish after hatching are able to stand this strength of copper sulphate. The yolk sac is absorbed seven days after hatching.

The run of bass at Bouldin Island during this season was very light. Most of the fish taken by the fishermen were quite green, and by the middle of May they caught both green fish and fish that had already spawned. The taking of a female bass with ripe eggs was evidently a lucky chance, and we had not been able to locate their spawning place.

A gauze tow net was used at different times during the season in the river, the sloughs, the flooded islands, and on the tule flats in the hope of catching a young bass just hatched, or eggs before hatching, and thus get some clue to where the striped bass spawns, but without results.

Season of 1909.—Having formed the theory that the striped bass caught at Bouldin Island are almost all sexually immature, and having so far been unable to locate their spawning beds, we hope that by penning the fish when caught they could be held until ripe. The penning of striped bass had been tried on the Atlantic coast without success and we knew they were exceedingly difficult to hold alive in captivity, yet we believed that with a sufficiently large pen, fenced off in the river, they could be held. By act of the State legislature the months of May and June had been made a close season on striped bass for net fishermen. We employed a fisherman with boat and suitable nets to fish during this time for the hatchery.

The run of spawn bass this season was exceedingly poor. Very few of the fish were to be found near Bouldin Island or on the river below. While ripe males were not uncommon, the females taken were most of them sexually immature. Only one apparently ripe female was taken, and from this fish only about 5 per cent of the eggs were hatched. The capture in the river of only green or spawned out fish would indicate that the river is not the place of spawning; but every conceivable place was fished during both the day and the night—the tule flats, the sloughs, the interior of the flooded island were fished with the result we were not nearer to the solution of the problem of where the striped bass spawn.

We built one pen in the edge of the river 3 by 40 feet in which the water stood about 6 feet deep at the outer edge and 2 feet deep at the inner side next the bank, with tules growing at one end and the rest partly overhung with willows.

We found that immature female bass and mature male bass caught in gill nets and carefully handled and placed in lively condition in this pen would live five or six days. The same kind of fish caught in fyke nets would live ten or twelve days. Female bass apparently nearly in spawning condition caught in gill nets could not be kept twenty-four hours. They injure themselves in some way when caught in the net and do not recover. We caught no nearly ripe females in the fyke net. Thinking possibly there was not current enough in the pen we had, we built a pen 16 by 20 feet by 5 feet deep, divided into two compartments 10 by 16 feet each. The framework was of 2 by 4 pine, and the sides and bottom covered with woven wire fencing. The pen was floated and anchored in the current of Potato Slough. The fish placed in this pen did not live as long as in the other. The current seemed to be too strong for them. In neither pen did they struggle to get out, but seemed not to recover from their struggles when caught. In all fifty bass were penned. Our experience would show that the striped bass can not be held in pens until they mature unless possibly the pen be made very large and so placed that the fish can be trapped and guided into the pen without handling.

There were several theories advanced to account for the poor run of bass in the San Joaquin River. For a year the dredgers had been active building up the levees and the silt and dirt thus stirred up might cause the bass to shun the river. Another theory was that the bass turned into and continued on through the flooded Sherman Island, whose levees had broken the year before, and continued up the Sacramento. The number of bass taken in the Sacramento was larger than the spring before, which seems to bear out this theory.

Another theory is that the bass are becoming scarce, due to the large catches and to the destruction of bass in the reclaimed islands when they were pumped dry. The scarcity of the bass in the San Joaquin may be due to all of these causes. Certainly immense numbers of bass have been destroyed in the islands. When the levees break the small river fish and carp enter the flooded lands and the bass also seem to prefer these islands for feeding grounds; and when the levees are built up again and the water pumped out, many tons of bass of all sizes are left.

The fishermen say that the sand bars and flats in the San Joaquin, which used to be of clean sand, are now covered with silt and trash stirred up by the dredgers, and they catch no bass now on these bars, where formerly they were often taken.

Most of the bass taken at Bouldin Island this season were taken in Georgiana Slough on their way through to the Sacramento. The catch on the Sacramento was larger than the year before, the largest number being taken in Steamboat Slough. The run was quite good in Cache Slough and Prospect Slough.

Season of 1910.—During this season two fishermen and boat were employed to fish for striped bass in the neighborhood of Bouldin Island, and another boat and two fishermen were employed to fish in Cache Slough and tributaries on the Sacramento side.

The run of spawn bass on the San Joaquin was better than the previous season, but all females taken were green and immature. Ripe males were taken in plenty. The river above Bouldin and all sloughs within ten miles were fished, the fishing being done mostly by night. The Mokelumne River was also explored. Bass were taken only near Bouldin Island mostly in the main river.

The Cache Slough country on the Sacramento was thoroughly explored. The striped bass are found in increasing numbers each year in this region. The greater number of bass are taken in Steamboat Slough, just above the mouth of Cache Slough, during the early part of the runs. Later they are found more plentiful in Cache Slough, where they are taken in nets in the main slough. Most of the bass running up Cache Slough turn off and ascend the clear water of Prospect Slough, through which they can reach the Big Lake, back of Clarksburg, and from there through inlets into the Sacramento again above the city of Sacramento. These sloughs and the Big Lake were pretty thoroughly fished during the bass run. Almost all the striped bass taken were very green and apparently not within several weeks of their spawning time. According to those familiar with the region, the striped bass come into Prospect Slough late in May and in June—a sort of belated run—and spawn in the main slough, but this season this run did not appear. The run here was earlier this season than last and evidently continued on up the river. They were reported as being seen early in May as far up as Tehama.

In the clear water of Prospect Slough the bass take the spoon readily, and this has become a popular fishing ground for those who enjoy the sport of catching the striped bass with rod and reel. The usual method is to troll behind a gasoline launch. Large numbers were taken this season in this manner; probably more pounds of fish than were taken by nets in Cache Slough.

If any future effort is to be made at hatching the striped bass, Cache Slough and its tributary, Prospect Slough, offer exceptional opportunities of trapping and impounding the bass in their early run up these sloughs. Prospect Slough is much of it narrow and not so deep, but that impounding nets could be set for catching them on their way up the slough. There should be no great difficulty in trapping the bass and leading them into an inclosure or blind slough, of which there are several, for they are readily caught in the small winged fyke nets used by the "cat" fishermen. The shallow Big Lake would be an excellent place for setting impounding nets. If the bass can be impounded and not be handled, as is necessary with seines and gill nets, they ought to reach the spawning stage in confinement.

N. B. SCOFIELD.

NOTES ON SPAWNING AND HATCHING OF STRIPED BASS EGGS AT BOULDIN ISLAND HATCHERY.

By N. B. Scofield and G. A. Coleman.

Examination of Lot "A," April 28, 1908, 6.30 p. m. to 9.00 p. m.

Both female and male had been caught about two hours and were dead when eggs were taken. Eggs taken at wharf at 6.30 p. m., spawned in a new dry tin pan, the milt spurted over them, then carried to the hatchery (about thirty seconds in transportation), about a pint of filtered river water added, and the eggs gently agitated by tipping pan for about one minute, more water added, and the milt decanted.

The milt from male was examined within five minutes after taking, but no movement of the spermatozoa was perceptible. The milt had a ropy, thick, white appearance, did not mix with water, but sank to bottom when put in clear water or normal salt solution. Eggs were taken from this lot, and milt, which had been caught in a vial of normal salt solution, added; the washing was done in distilled water, and they were placed in distilled water to swell, but did not swell at all.

April 29.—Eggs were taken at intervals and examined under the microscope, but no sign of segmentation could be found. Eggs were examined under high power of microscope for bacteria and fungus, but none could be distinguished. The eggs are constantly turning while floating to the top of jar and going over; an examination of these eggs shows that the germinal disc was broken or pinched off, and in some cases the yolk was ruptured. At 6.30 p. m. (twenty-four hours), fully 50 per cent of the eggs had passed off this way.

April 30, 7.00 a. m.—An examination of the jars showed that very few eggs were left, and these showed no signs of segmentation, hence jars were emptied. Specimens in mould dish were examined at 9.00 a. m. for bacteria and fungus, but none found. Examined again at 4.00 p. m., when it was found the bacteria (*Bacterium terms*) had developed in countless numbers. A distinct odor of putrid fish was discerned on opening dish.

4.00 p. m.—A number of males and females were examined on wharf, but no ripe ones found. Milt from these males showed no movements under microscope in three to five minutes.

LOT "B," APRIL 30, 7.00 P. M.

This lot of eggs was from a female which had been dead about one hour, and male had been dead about the same length of time. Both eggs and milt were taken at wharf. Eggs taken in a new dry tin pan. The milt expressed directly over them. The pan dipped immediately (in about fifteen minutes) into river from side of boat. They were in this water with the milt while carried to the hatchery (about three minutes), and washed in water from overflow taken in the hatchery. Allowed to swell one hour before beginning to put in jars. The last of them remained in pan 2½ hours. About 25 per cent of this lot turned white before they were put in jars. A study of these eggs showed that no impregnation took place, just as in lot "A." The eggs swell, the germinal disc contracts and forms a cap on one side of the yolk. This cap remains in position up to about twelve hours, when it pinches off. The egg turns a whitish color, becomes buoyant and floats off through the siphon tube. A part of the eggs in this lot were taken in normal salt solution and milt, which was caught in normal salt solution applied. Specimens from these were preserved, and a study of them shows that they acted in just the same way as the others.

LOT "C."

Tried the experiment of taking some of this lot of eggs without milt and swelling them, placing them in a jar under same conditions as the impregnated eggs. They developed exactly as lots ''A'' and ''B,'' and the germinal disc pinched off in just the same way. This is practical proof that the eggs will develop to this stage without impregnation, and also that impregnation did not occur in lots ''A'' and ''B.''

LOT "C," MAY 6.

Male and female alive and in prime condition. The dry method was followed. The self-straining bucket was used. This consists of a cylinder of perforated tin, fitting inside the regular collecting bucket, barring a space of two inches between tin and side of bucket. Water is poured over the eggs, and the movement of cylinder in the bucket strains off the milt. The first segmentation occurred in two hours, and it was estimated that 30 per cent of them would develop embryos, and 25 per cent of them did develop into fish. There was about 50 per cent died after developing into embryos, thought to be smothered from lack of circulation of water, due to collection of sediment on sides of jar.

The non-fertile and unimpregnated eggs passed over within twenty-four hours, just as in the first lots ''A'' and ''B.'' A part of these eggs was saved and left in the jar to watch development of fungus and bacteria.

May 8.—The first trace of fungus was found on the dead eggs in the above jar within forty-eight hours after taking; specimens were removed to mould for study.

May 9.—The fungus consists of two species. One has the appearance of saprolegnia, the other a segmented form of a higher order, and both are in fruiting stage, showing that they develop very rapidly. So far no trace of the fungus on live eggs. In the case of the ripe eggs taken from spawned female, a small percentage of fertilization was obtained in a normal salt solution after eggs had been taken three hours.

LOT "D."

May 24.—Eggs from two females taken by McLeod. Milt from buck taken by McLeod at same time. Wet method employed by McLeod. Brought into hatchery half an hour after taking, with milt still on. Washed up in hatchery in four dish pans about 1,000,000 eggs. Apparently 30 per cent of segmentation at two hours. Apparently 25 per cent had turned white.

May 25.—Eggs disturbed at twenty-four hours by Ball, condensing the good eggs into three jars and pouring off bad ones.

May 26.—Do not seem to have suffered by handling.

May.—Twenty-five per cent of this lot hatched into fish.

Lot "E."

May 24, 8.00 p. m.—Eggs taken by McCrea from female which he thought was ripe. Milt from buck which he said was in prime condition. Dry method employed. Brought to laboratory in spawning pan. Was very white with milt which was stringy (not ripe). Washed up in hatchery. At two hours, about 1 per cent segmentation. Put in jars and kept twenty-four hours.

May 25.—No sign of embryos; hence thrown away.

Lot "F."

May 24, 9.00 p. m.—Eggs from spawned out female taken by "Nibsey," about 3 miles above Bouldin. Milt from male taken at same time. Wet method employed by Ball. Female had been very roughly handled in taking from net, but eggs had ripe appearance. Eggs taken in 3 gallons of water (about 20,000). Milt added and left for one hour; at two hours—50 per cent segmentation.

May 26.—About 50 per cent ready to hatch. Used for experiments with copper sulphate.

Lot "G."

May 25.—Eggs from a "spawned" female. Milt from buck taken half an hour later (not ripe). Wet method employed by McLaughlin. Brought into hatchery in self-straining bucket. In two hours about 50 per cent fertilization. Put in open jar.

Lot "H."

May 25.—Eggs from female taken by Woods. Milt from buck taken by Woods. Female in good condition and eggs apparently ripe. Male small and milt green (stringy). Wet method employed by Cassell. At two hours about 25 per cent fertilization; hence were not put in jars.

Lot "I."

May 28.—Female and male taken by McLeod. Eggs apparently ripe. Milt not very good. On questioning them closely, found they had taken the female from net, expressed the eggs in pan dry, added a little water to keep them moist and kept them in the water until they got a buck (about fifteen minutes), then added the milt. The eggs thus had time to begin swelling before milt was added. At two hours about 5 per cent of fertilization.

Lot "J."

May 28.—Female and male caught by Herman Wredt, about 3 miles up river from Bouldin. Said they were both ripe. Wet method employed. Eggs kept in gasoline can for two hours. Washed up in hatchery. Developed 25 per cent of fertilized eggs.

Lot "K." The Banner Lot.

May 28.—Female and male taken by Woods. Both in prime condition. (Eggs and milt ran freely.) Eggs a golden green color when taken. Milt white, but ran out like cream. Eggs taken in spawning pan, a little water added, and a *very small quantity* of milt added. The water was changed frequently in transporting eggs, as they were carried in boat for five hours. These eggs were taken in Disappointment Slough, some 14 miles from hatchery, and in the night-time. He had no bucket in which to place the eggs, so transferred them from spawning pan to a stew kettle, which he happened to have. In working with their engine, he would let eggs go for an hour or more at a time without washing. It was between five and six hours from the time eggs were taken to time they reached the hatchery. He washed them on arriving at his ark, and when they were brought into hatchery not a particle of milt could be seen on them, and there were very few dead eggs. All had a clear greenish color. There appeared to be 85 per cent of them fertilized when they were brought in.

May 30.—There were actually hatched from this lot out of 280,000, 227,000 fry, or 71 per cent, and this number planted in shallow water about 3 miles above Bouldin.

Lot "L."

May 28.—Male and female taken by "Nibsey." Spawning and fertilization attended to by Grey. He thought these eggs ripe, but sample brought to the laboratory showed very dark green with white spots. He said fish were very roughly handled in taking from the net. In two hours about 5 per cent fertilization. Put up and kept twelve hours (no good eggs).

May 29.—Male and female taken by Woods. Eggs and milt taken by McLaughlin. Found a few eggs (about half pint) left in female when she was brought in by Woods. They were a light yellowish green, ran freely, and separated easily in water. The milt was examined and found to be not very lively; it came out in thick lumps. Wet method used. Eggs brought to hatchery in thirty minutes after taking. Washed in laboratory. Developed 50 per cent of fertilized eggs.

GENERAL CONDITIONS, TEMPERATURE OF WATER, ETC.

On Saturday and Sunday it was warmer than at any time this spring, bringing the water up to 66 degrees or 68, which brought a fair run of bass on Sunday afternoon and with varying luck during the week. The north wind seemed to stop the catching of bass, though a few other fish were caught. The sudden drop of the temperature on Thursday night, combined with a northwest wind, stopped the bass entirely, so that the first drift on Sunday, May 31st, yielded only one or two very small bass, and the second drift, Sunday night, only a few green males.

EXPERIMENTS WITH THE SPERMATOZOA.

Spermatozoa are active for about three minutes in water, after which time their swimming motion ceases. Placed on a microscopic slide they become attached to slide and cover glass by their tails, and their swimming ceases within one minute. Occasionally milt taken from a male does not show active spermatozoa at first, but after being left in a dish exposed for half an hour they become active when placed in water. If first they are placed in normal salt solution (.05 per cent), they will become very active on being placed in water. The salt solution seems to have a stimulating effect. The spermatozoa are active in water ranging from the temperature of freezing up to 90 degrees Fahrenheit. They are most active at temperature of 68 degrees Fahrenheit. They are killed at temperature of 100 degrees—110 degrees Fahrenheit. At a lower temperature than 42 degrees they are very sluggish. It was found that milt left in a dish exposed to the air, at a temperature ranging between 54 degrees and 68 degrees Fahrenheit, showed active spermatozoa after twenty hours.

We hope to demonstrate that striped bass eggs can be kept in an open dish and fertilized after several hours, as has been done with salmon and whitefish eggs, but all the lots of eggs saved for experiment happened to be from lots that turned out to be immature.

FOOD OF ADULT STRIPED BASS.

The food of the adult striped bass in the rivers is principally of carp, hardheads, and split-tails. Nearly all the fishermen claim that when the carp is plentiful it is their principal food. They even advance the theory that the bass are not so numerous in the San Joaquin because the carp are not so plentiful on the lower river, and they run up the Sacramento because of their great abundance in those waters.

FOOD OF YOUNG STRIPED BASS.

An examination of the stomachs of fifty young bass averaging 3 inches in length, which were taken at "Morrison's Bite" in Napa Creek on September 10, 1908, shows the following contents: Crustaceans, a species of Mysis, 30 per cent; of young shrimp, 15 per cent; of a species of Gammarus, 1 per cent; of an Isopod, 1 per cent, and 1 small crab. Marine worms or annelids, a species of Nereis, 45 per cent; of species not recognizable, 5 per cent; small fish, species not recognizable, 2 per cent.

It will, therefore, be seen that on this feeding ground, at least, marine worms comprise 50 per cent of the food, crustaceans of marine species 48 per cent, and small fish only 2 per cent. The young shrimp and young fish were taken from the stomachs of young bass of 3 to 4 inches in length and the other small crustaceans from the stomachs of specimens 3 inches and under in length, showing that the young bass begin feeding on the small species of crustaceans and worms, and as they grow in size are able to take the shrimp and young fish.

KEY TO FIGURES.

Fig. 1—Young striped bass—just hatched 80 hours from fertilization of egg.

Fig. 2—Young striped bass at seventh day.

Fig. 3—Young striped bass at thirteenth day.

Abbreviations. O.G., oil globule. Yk. Sc., yolk-sac. Br., brain. Ht., heart. St., stomach. An., anus. Bld., bladder.

The natural size of specimens is indicated by a line marked N.S. and all figures are magnified 15 diameters.

A study of the specimens shows that the yolk-sac is not entirely absorbed until after the seventh day, and that the stomach is not well developed until about the thirteenth day. The young fry were kept for two weeks in the McDonald hatching jar by removing the siphon tubes and replacing the top with silk bolting cloth, allowing a small stream of water to flow on the cloth.

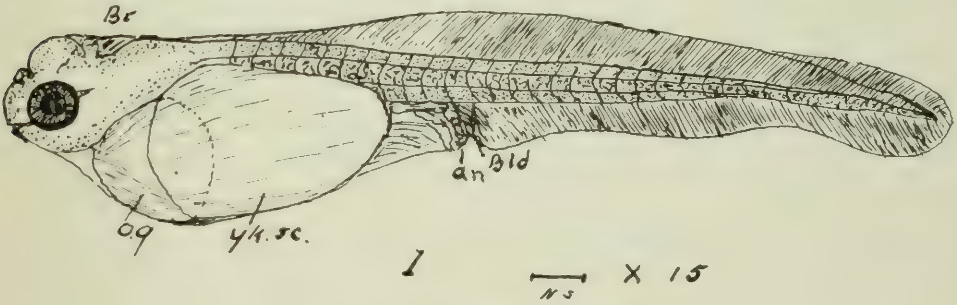


Plate 1. Young striped bass.

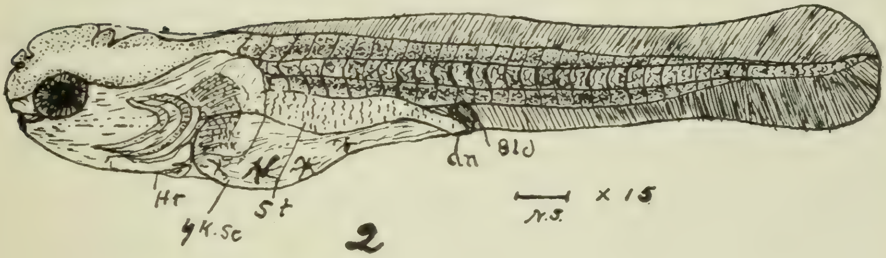


Plate 2. Young striped bass.

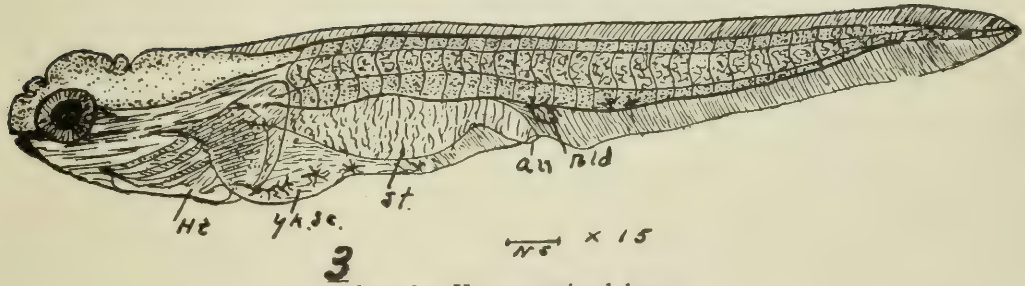


Plate 3. Young striped bass.

EXPERIMENTS WITH COPPER SULPHATE IN KILLING FUNGUS INFESTING THE EGGS IN HATCHERY JARS.

A number of experiments were tried to determine if this fungus can be killed by the use of copper sulphate without injuring the fish.

1. The fungus can be killed by application of copper sulphate (1–500,000 parts).

2. Fish or developing eggs are killed by application of copper sulphate (1–10,000 parts).

3. A small proportion of eggs are killed by solution of 1–25,000.

4. About 1 per cent of eggs are killed by application of 1–50,000.

5. The developing embryos will stand an application of 1–100,000 parts of copper sulphate without harm. This strength kills all the fungus and other organisms except small crustaceans.

6. It can be applied directly to the affected jars by dropping the required quantity into the jar and allowing the water to run as it ordinarily would.

Example.—A jar containing 5,000 c.c. of water would require one twentieth of a gram of copper sulphate to equal 1 part to 100,000.

It may be applied to the entire lot of jars by mixing and dissolving the required quantity in a small amount of water and adding it to the water as it runs in from the pipe.

Example.—If the water is running at the rate of 2½ gallons per minute (1,000,000 c.c.), it would require 10 grams of copper sulphate dissolved in 5 quarts of water and added slowly to water at head.

This experiment was actually tried and a lot of eggs which were infected with fungus left attached to the trough, also a lot which had been treated twice by dropping sulphate into jar. Neither one of these lots were affected. The fungus is thus cleaned out of troughs and it may all be flushed out by running in fresh water after the water with sulphate has been in for thirty-five minutes.

The copper sulphate may also be used in a strong solution for cleaning used jars. There is usually a coating of oil on the inside of jars after one lot of eggs has been hatched in them and on this oil a collection of fungus and other micro-organisms. The application of the copper sulphate cleans this oil off and kills all fungus or bacteria that may be collected on the sides of the jars.

Troubles.—A considerable amount of trouble was experienced with most lots of eggs in keeping them in the jars at about 12 to 24-hour stage. The bad eggs became attached to the good ones and carried them over. It was found that under the ordinary pressure about 10 per cent of the good eggs would go off in this way. An examination under the microscope of the eggs that were going off showed that they were connected by the fungus and other organisms which collect on the dead eggs and attach themselves to the good ones, one bad one sometimes having two or three good ones attached.

It was found necessary to turn the water off during this stage, flushing off the dead eggs occasionally in order to not smother the live ones. One of the jars containing the larger percentage of dead eggs and in which the carrying over was greatest, was treated with copper sulphate (1–100,000) twice (30-minute interval). The water was then turned on in a stronger current than usual. This jar was kept going all the time that the other jars were shut off. The dead eggs moved off slowly, and while the live ones were in constant motion they did not go out.

From this experiment it would seem that the fungus and micro-organisms were killed by the application of the copper sulphate, and when killed were removed from the eggs by the constant motion of the eggs. The dead eggs were thus carried off without their becoming attached to the live ones, and the necessity of turning off the water (which endangers the fish from lack of oxygen) to keep in the good eggs was avoided.

PHEASANT RAISING.

Arranged by CHAS. A. VOGELSANG.

INTRODUCTION.

The State Fish and Game Commissioners, realizing that there is a strong and unsatisfied demand by hotels, restaurants, and by private citizens who do not hunt for wild game, and with a constantly increasing population, which renders it necessary to place greater restrictions (such as longer closed seasons and lessened bag limits) upon the amount of game that can be taken, believe that the situation could best be met through the establishment of a game farm, where pheasants and other game birds could be raised and distributed throughout the State, to people who would agree to give them proper protection and attention, and would take up the work of propagation seriously. The raising of pheasants in captivity has been carried on for years in European countries, and with considerable success in Eastern States.

It is the intention of the Fish and Game Commissioners to recommend at the forthcoming session of the legislature that pheasants raised in captivity can be sold in the markets. It would mean a new industry and would serve a double purpose. It would reduce the drain on wild game in the field, and give the profit that formerly went to market hunters to citizens and taxpayers who engage in a legitimate business.

At practically every session of the legislature for the past ten years some variety of game bird or animal has been added to the nonsale list, leaving wild ducks, wild geese and rabbits the only game that can be sold in the markets. It is only a matter of a very short time until wild ducks are added to the nonsale list.

The establishment of the game farm has been rendered possible by the hunting license law, which provides yearly a large revenue. Such a farm has been established near Hayward, Alameda County, at a cost of approximately $10,000, which includes in its equipment, houses, barn, water tank, pumping plant, pens, horse and wagon, necessary tools, and the original stock of birds. Our first year's work was performed under serious disadvantages. We raised, however, 1,200 pheasants. We expect to have 3,000 for liberation this year. All expenses in connection with this game farm are paid out of the hunting license fund, without taxing the general fund of the State one cent.

As an aid to those who are desirous of embarking in such an enterprise, we offer the following brief account of methods that have been proven successful by this Commission and other experienced breeders.

We have quoted largely from Farmers' Bulletin No. 390 on "Pheasant Raising in the United States," issued April, 1910, by the United States Department of Agriculture, and prepared by Henry Oldys, Assistant United States Biological Survey.

PENS.

The location of the pens is a most important factor. Well drained, sandy or gravelly land facing the south should be selected if possible, and the pens arranged to get all the sunshine possible during the wet months, as sunshine is one of the very best preventives of bird diseases. In hot locations the pen can be shaded when necessary.

A good sized pen or run for one cock and four hens would be about ten feet wide by sixteen feet long and six feet high. The sides and top should be covered with one-inch mesh poultry netting, carefully fastened and sunk into the ground *at least a foot,* to keep out burrowing animals. It is well to have an entrance at both ends of the pen for convenience in gathering eggs. A shed should be built in the north end of the run, with the side facing the sun, open. This shed should be at least four feet wide by six feet long and as high as the sides of the pen. A roost should be provided the length of the shed and a foot and a half above the ground. The *front of the shed must be left open* or the birds will not enter; the roof, rear and ends should be tight. When possible, it is well to enclose in the run small trees or shrubs for the birds to use as perches and for roosting; they will, besides, provide a shade during the hot summer months. Pheasants usually refuse to roost under cover; consequently, roosts of some sort must be provided in the open. Where more than one pen is used, they should communicate with each other, either directly or through a covered alleyway. This greatly facilitates the moving of birds from pen to pen.

It is absolutely essential that the pen be kept clean and free from lice at all times. The pheasant is a wild bird, with greater vitality than domestic poultry, yet conditions and diseases that affect poultry but slightly are fatal to the hardier bird. It is, perhaps, safe to say that most failures in pheasant rearing are due to filth and lice. We can not emphasize this fact too strongly; keep your pheasants in clean quarters and free from lice or you will lose them.

Before the beginning of the mating season it is advisable to move the adult birds to a fresh, clean pen. The ground in the old pen should then be spread with unslaked lime, allowed to stand two or three weeks, and then spaded up and planted to some grain or vegetable crop. All woodwork about pens and sheds should be sprayed or washed several times during the year with a good wash made with unslaked lime and water, to which has been added carbolic acid in the proportion of six ounces of acid to the gallon of wash. No whitewashing should be done during the laying season, as the hens are so affected by the odor as to stop laying.

HANDLING NEW BIRDS.

When a shipment of pheasants is received, first of all consider that they will feel strange and timid; therefore, they must be quietly handled. Place the crate in the pen, with food and water near by. After arranging it so that the birds can come out when they get ready, leave them and keep away from the pen, except when necessary to feed and water, as pheasants are easily scared when changed to new quarters. After a few days they will become accustomed to their new home and can be cared for without trouble. The same person should attend to the birds all the time if possible, and should always wear the same clothing when among them, as they are sensitive to any change of appearance and become frightened very easily. Strangers always bother the birds, and dogs and cats should never be allowed near the runs. Handle the birds only when actually necessary, and then only by grasping them *over* the wings and around the body. Never grasp them by the wings or legs, as is commonly done with poultry.

FEED FOR ADULT BIRDS.

Those foods that contain the elements and properties of their natural food supply, and to which they have been accustomed through centuries of feeding in the wild state, are naturally best suited to the pheasant in captivity. Do not overfeed, as it is sure to induce disease. The pheasant is a small feeder, needing only about half as much food as the chicken.

Variety in food is very important, as the pheasant in his wild state eats practically every edible substance he finds. Adult birds require feeding morning and evening, no more food being given them than will be cleaned up. We have found the best food to be a mixture made after the following formula:

Broken wheat (not screenings)	20 pounds
Fine (granulated) cracked corn	15 pounds
Oat groats	15 pounds
Coarse beef scrap	10 pounds
Millet seed	10 pounds
Canary seed	10 pounds
Rape seed	5 pounds
Hemp seed	5 pounds
Fine chicken grit	5 pounds
Fine granulated charcoal	5 pounds
	100 pounds

We should say at this point that none of the various poultry foods that we have tested has proven suitable for pheasants. The birds must have plenty of green ground bone at all times and be given an abundance of green feed, such as cabbage, lettuce, swiss chard, fine cut lawn clippings, clover or alfalfa. They like lettuce best. Pheasants get unthrifty at once if deprived of the green stuff they need. Fresh water in abundance *must* always be handy. Scald all watering dishes *every* day, and keep drinking water in the shade or change it often; warm water favors the development of bacteria that cause disease.

MATING SEASON.

The mating season will, of course, vary with the locality, but, generally speaking, it begins in April and extends into August. In captivity the pheasant hen lays from forty to seventy-five eggs. Nests are useless, as the hens will seldom use them, but drop their eggs on the ground anywhere in the pen.

The eggs should be gathered as soon as laid, or at least twice a day; otherwise the birds (particularly the males) will eat them. A sure cure for the egg-eating habit is to blow some eggs and fill them with melted soap and place in the pens. Eggs should be set as soon as possible; after they are fourteen days old they are unfit for hatching.

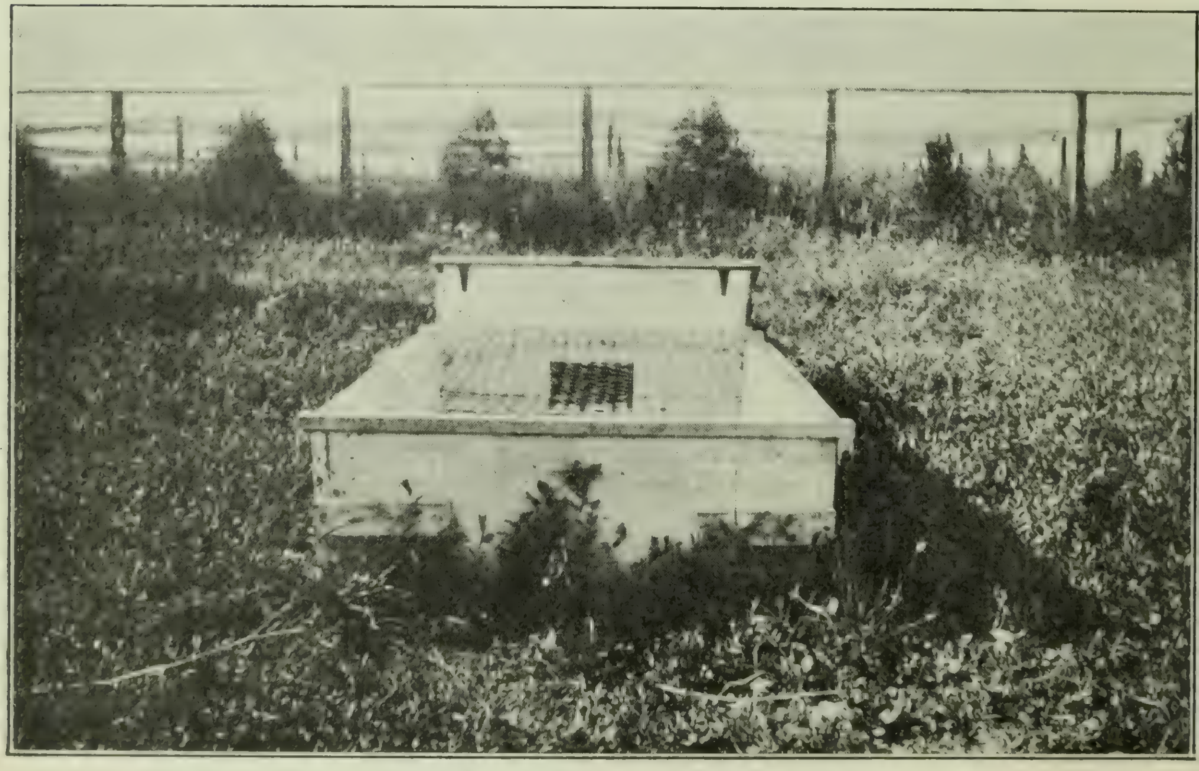
After hens have stopped laying for the season they can often be encouraged to resume by moving them and the male to a new, clean pen. The ''lay'' in the new pen sometimes exceeds that in the old one, and, of course, more than pays for the expense of extra pens.

HATCHING.

The pheasant hen in captivity is a poor mother; besides, it is more profitable to keep her laying. Wyandottes and Rhode Island reds make the best ''mothers'' for pheasant eggs and chicks, although any domestic hen will do, so long as she is a good ''setter.'' Turkey hens are splendid mothers, as they are very quiet on the nest and careful with young birds. They seldom step on the chicks and are not so given to roaming as hen chickens are. The eggs must be set so that they will receive the benefit of ground moisture in a nest made after this plan:

Dig a hole *in the ground* in a shady place and shape a nest in it with excelsior; a handful of onion skins is a valuable addition, as they help to keep lice away. The nest should be enclosed with a box without a top and about twelve inches high to prevent the young birds from escaping as soon as they hatch. Before placing the hen on the eggs be sure that she is free from lice and disease, as lice are certain death to young birds and are the cause of most failures in raising pheasants. One insect feeding on top of a chick's head will kill the bird if not destroyed or removed. Dust the setting hen with some good lice powder, at least three times during the hatching period (but not within three days of hatching), and if at any time the young birds show evidence of being infested with lice, such as drooping and refusing to eat, dust them with lice powder and grease under their necks and on top of their heads with lard or olive oil.

From fifteen to seventeen eggs make a good setting for a chicken hen, while a turkey hen will cover from twenty to twenty-five. The period of incubation varies from twenty-one to twenty-eight days, although well fertilized eggs usually hatch on the twenty-third day, and all about the same time. The hen should be undisturbed during the hatching time and the young birds left in the nest until the youngest is a day old, as they need the "mother's" warmth for drying and strength-giving.



A coop for the mother and her chicks should be ready as soon as they are taken from the hatching nest. A cut and description of a very satisfactory coop is given herewith.

This coop (as shown) is three feet wide by six feet long and is twelve inches high, except in the hen's compartment, which is raised to twenty inches at the inner end. A space two feet long should be partitioned off at one end for the hen and an eight-inch opening left. This opening should be covered with slats spaced so that the chicks have just enough room to pass from one compartment to the other. The hen's compartment should be made with a hinged cover, to facilitate feeding and handling, while the runway should be covered with one-inch mesh netting, set in a sliding frame. It is a good plan to set the coop on a freshly cut grass plot and move it daily. The tender shoots of new grass form a wholesome part of the chick's food, and they are very fond of it, besides which, there is daily provided a supply of insect life.

After the chicks are four days old and know the call of their foster mother, they may be allowed to leave the coop after the morning dew has disappeared, and forage for themselves. Many breeders even allow the hen and her brood their freedom until the young birds show a disposition to fly out of the enclosure, when they transfer them to covered pens. Young birds cared for in this manner will be hardier and freer from lice and disease than those confined in coops.

THE FEEDING OF PHEASANT CHICKS.

It is important that the hen and her brood be fed separately. The young birds should not be fed at all until they are twenty-four hours old, as they come from the shell sufficiently well nourished to maintain their strength for that length of time, but they should have clean sand or fine gravel to pick at from the first. By the second day they will begin to get hungry and need feeding every two hours. After they are five days old, let the feedings be gradually reduced, until, at the expiration of three weeks, the birds are being fed but three times a day.

As soon as the young birds are ready to eat, they should be fed on a milk curd made as follows: Heat one quart of sweet milk to the boiling point, stir in ten eggs (well beaten) and then cook until the curd is well done. Strain off the watery fluid and you have a crumbly food that contains nearly all the elements essential to young pheasant life. A mixture of milk, eggs, and oat or corn meal in proportions to make a dry crumbly mixture is also a fine food. Boiled potatoes, mashed and mixed with finely chopped hard boiled eggs, corn meal, and bran—with or without finely chopped scraps of meat—provides a food that the young birds like. Still another suitable food is a mash of corn grits, wheat middlings, bone meal, beef scraps, and milk, made rather dry. In making curd, make only enough to last one day, as it spoils quickly, and sour food is death to the birds.

Maggots are the very best animal food for young pheasants. They are easily procured, and the chicks may eat as many as they desire with perfect safety. But maggots should not be given to the birds until they have lain in bran long enough to clean themselves. Maggots when taken direct from meat seem to be poisonous and are a dangerous food. Maggots may be procured in various ways, but we will describe but two plans, both of which have been used by us. Take crushed green bone and finely chopped meat, and place out doors until the mixture is well covered with fly eggs. Then fill a box or pan half full of bran, over which spread thin scraps of liver or meat for food for the maggots, and spread the flyblown green bone and meat on top. Another good method is to hang a beef or sheep head until the maggots get big enough to drop out. Then place a box of bran underneath and allow the maggots to lay in the bran a day of so before giving them to the birds.

Lettuce is a splendid food for young birds, and they should have it all the time. Fasten a head to the ground with a sharp stick and the birds will pick it off as they want it. Leave no remnants of food around the pens to become stale, and keep everything as clean and dry as possible. Dampness causes colds and gapes. Have plenty of fine grit and sand in reach at all times, and it is well to keep a pan with such food as is fed to the adult birds in the coop so that the youngsters may learn to eat it.

For watering the young birds, it is best to use the fountain jars that can be bought of any poultry supply house. The quart size is the best. Their drinking water *must always be fresh* and the fountain jars (and food pans) should be cleaned and scalded every day.

Usually the birds can be moved to the large runs by the time they are two or three weeks old. *Don't* put them with old birds. By the time they are five weeks old they may be fed anything they would find in the wild state. Young birds (as well as old) must always have dust or ashes to "dust" themselves in. This is their way of taking a bath and freeing themselves from insects.

DISEASES OF PHEASANTS.

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DISEASES AFFECTING YOUNG PHEASANTS.

Pasting.—Pasting occurs usually during the first week of life. The chick loses its vivacity, sits with eyes closed and its downy coat fluffed until it appears like a ball. Examination reveals the vent plugged or covered by a whitish, chalky, or pasty substance. This stoppage of the vent frequently leads to death in a day or two as the result of the absorption of putrefactive poisons due to retention of the feces. Treatment consists in the immediate, gentle removal of this chalky plug and the application of a few drops of sweet oil or a bit of petrolatum.

Diarrhea.—Whitish diarrhea may be caused in very young chicks by cold, by overheating, by overfeeding, or by too little or too much water. The observant fancier will come to recognize these conditions almost instinctively, and will relieve them by at once altering the régime. This should be all that is necessary. If more is required it is evidence that either the case has been permitted to run so long that the chick is too weak to recuperate or infection is operating.

White diarrhea of chicks, so dreaded by the poultryman, is an affection of pheasant chicks as well. The diarrhea is merely a symptom of a severe infection of the intestines, especially of the blind pouches or ceca, by a low form of animal life, known as *Coccidium tenellum,* and we therefore speak of the disease as an intestinal coccidiosis. The white coloration of the fecal discharge, as in the two previous diseases, is due to excretions from the kidneys. In certain virulent forms of the disease the minute blood vessels on the inner portion of the intestinal wall burst, and the bleeding gives rise to a dark brown or even blackish coloration, which obscures the white effect of the uric acid.

Treatment should begin with the administration of Epsom salts, mixing them in a mash and estimating from eight to fifteen chicks to one teaspoonful of the salts, according to age, size, and previous thriftiness. The drinking water should contain sulphate of iron (copperas) in the proportion of ten grains of the copperas to one gallon of water or enough permanganate of potash may be added to the drinking water, to give the water a claret-red color. The coops, feeding utensils, drinking vessels, and runs should be disinfected. As a preventive measure, incubators and brooders should be cleansed and disinfected, and, prior to incubation, whether natural or artificial, the eggs should be dipped in ninety-five per cent alcohol or in a four per cent solution of some good coal-tar disinfectant.

DISEASES AFFECTING MAINLY ADULT PHEASANTS.

Roup.—Certain affections known as contagious catarrh, diphtheria, and roup, if, indeed, they be distinct diseases, generally group themselves in the fancier's mind under the one name, roup. The term diphtheria should not be used, because it belongs properly to that disease in the human family which is caused by a special bacillus which does not cause disease in birds. The other two names may represent two different stages of the same disease, a contagious inflammation of the mucous membranes of the eyes, nose, mouth, throat, gullet, or windpipe, which may express itself by a watery, sticky, bad-smelling secretion, or by the development of yellowish patches.

In the treatment of these affections the first thing is to recognize the contagiousness and to isolate the sick birds. Disinfect the houses and ground. Make a mixture of peroxide of hydrogen and boiled water, equal parts; into this plunge the head of the affected bird. By means of a slender wire covered with a little absorbent cotton and dipped in this mixture clean out of the eye or scrape off the tongue and sides of the mouth all yellowish matter, and apply a four per cent solution of borax or boracic acid or the peroxide solution named above. Give all birds, sick and well, a dose of Epsom salts. Keep iron sulphate or permanganate of potash in the drinking water.

Enteritis.—Enteritis, as used in bird medicine, means inflammation of the intestines. While it may originate from cold, improper feeding, and the like, it is usually an infectious disease and calls for prompt cleansing of the digestive tract, which is best accomplished by Epsom salts or a teaspoonful of castor oil containing about fifteen drops of turpentine. Add iron sulphate or permanganate of potash to the water; isolate the affected birds. Disinfect thoroughly the houses, utensils, and grounds, and sprinkle lime everywhere. The causes may be coccidia, such as we find in white diarrhea of chicks; flagellates, as in the canker of pigeons; or bacteria, as in Klein's infectious enteritis.

Cholera.—Cholera would really come under the third class just mentioned. The organism causing it is frequently so virulent that death comes within a few hours, even before the diarrhea symptoms have had time to manifest themeslves. The treatment would be practically that outlined under enteritis, although treatment is usually of no avail. Kill the very sick and treat only the apparently healthy, thus anticipating and preventing the disease. Necessary in all the other diseases, it is of supreme importance in cholera to burn quickly all dead birds, after saturating them with coal oil. Burying deep and covering with lime may have to do, but it is not so good a method. In killing the sick birds do not use the ax, and thus spatter everything with the infective blood.

Scurfy legs.—The affection known as scurfy legs, scaly legs, scabies, or mange of the legs and feet is caused by a parasitic mite, *Sarcoptes mutans,* which burrows under the scales and by its presence sets up an irritation which causes a rapid increase in production of cells, together with a secretion resulting in a gradual thickening and elevation of the scales. Being a parasitic disease, scaly legs is transmissible from one bird to another and from infested houses, perches, nests, etc. Treatment must begin with isolation of the patient and the thorough application to the coops and fixtures of boiling soapy water, then kerosene, and finally a coat of five per cent carbolic acid, to which has been added enough lime to make a whitewash. The affected bird should have its legs soaked in warm soapsuds, this part of the treatment being completed by a good scrubbing with a small hand scrub. This alone has cured the disease. However, it is best to follow this with a good rubbing of sulphur ointment (one part flowers of sulphur to nine parts of lard, sweet oil, or vaseline).

GENERAL REMARKS.

Pheasants can be hatched in incubators and raised in brooders, but unless one has had much experience along those lines, it is best to resort to the domestic hen.

There are numerous other methods of raising pheasants, but from the success had with this one we recommend it as particularly satisfactory.

The best plan is to always follow nature as closely as possible and *beware of filth and lice.* For any information that you may desire which is not contained in this booklet, write to the "Superintendent of the State Game Farm, Hayward, Cal.," and he will give you such suggestions as you may need to make a success of raising pheasants. Any one going into the business extensively should have special instructions and must provide a different equipment.

IMPORTANT.

HOW TO LIBERATE GAME BIRDS.

If game birds are taken from the crates and left to fly, in their fright and desire to get away as far as possible from the crate, they will continue until exhausted. Such a flight will land them outside the lands they are intended for and will scatter them so badly that the pairs may never be reunited. If this is not the case, the exhausted birds will fall easy prey to predatory birds and animals.

To prevent this it is best to take the crate to some suitable location—in or near thick brush and with water at hand—and scatter plenty of feed about. Now quietly open the doors and go away from the crate, allowing the birds to leave in their own way—undisturbed by any one. If liberated in this manner, the game almost invariably will make its home close to the spot where it found its first food.

Birds should be liberated during the daytime so that they may get together, if scattered, and select a safe roosting place before night comes on. Where it is possible to do so, splendid results will be obtained by opening the crates in some old barn or ranch building and keeping the birds penned up for several days before allowing them their full liberty.

If the birds are fed and watered and left to themselves, they will recover from the effects of close confinement and traveling, and be in such condition that predatory hawks and "varmints" will do them no harm. When ready to liberate them, open a door and allow the birds to come out in their own way and time.

Game birds should not be liberated where their natural enemies are numerous. By trapping, poisoning, and other means, endeavor to kill off all predatory animals and such birds of prey as the great horned owl, sharp-shinned hawk, Cooper's hawk, duck hawk, butcher bird, and blue jay, before turning out any birds.